Exploring the personal, career, and academic growth of learning community peer mentors in the College of Agriculture and Life Sciences at Iowa State University

by

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The student author, whose presentation of the scholarship herein was approved by the program of study committee, is solely responsible for the content of this thesis. The Graduate College will ensure this dissertation is globally accessible and will not permit alterations after a degree is conferred.

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# TABLE OF CONTENTS

LIST OF FIGURES ........................................................................................................... v

LIST OF TABLES ............................................................................................................... vi

ACKNOWLEDGMENTS ...................................................................................................... viii

ABSTRACT ......................................................................................................................... x

CHAPTER 1. INTRODUCTION ............................................................................................. 1
  Background of the Study ......................................................................................... 1
  Statement of the Problem ...................................................................................... 4
  Purpose and Objectives ......................................................................................... 5
  Definition of Selected Terms .............................................................................. 6
  Summary .................................................................................................................. 6

CHAPTER 2. LITERATURE REVIEW .................................................................................... 7
  Theoretical Framework for Peer Mentoring ...................................................... 7
  Evolution of Learning Communities .................................................................. 12
  Defining Learning Communities .......................................................................... 17
  Purpose and Roles of Learning Communities .................................................. 23
  Learning Community Benefits ......................................................................... 26
  Learning Community Organization and Structure ............................................ 29
  Peer Mentoring Role in Learning Communities ............................................... 30
  Peer Mentorship Benefits/Risks ...................................................................... 34
  Summary ................................................................................................................ 36

CHAPTER 3. METHODS .................................................................................................... 37
  Introduction ........................................................................................................... 37
  Purpose and Objectives ....................................................................................... 37
  Instrument Development ....................................................................................... 38
    Focus Groups ..................................................................................................... 38
      Method ............................................................................................................. 39
      Implementing the focus group ...................................................................... 42
      Data analysis ................................................................................................... 42
      Focus group results for survey development ............................................. 43
    Design ................................................................................................................ 44
  Validation .............................................................................................................. 48
  Pilot survey .......................................................................................................... 48
    Data collection .................................................................................................. 48
    Results and changes to pilot survey ............................................................... 50
  Survey Implementation ......................................................................................... 51
  Data Analysis ...................................................................................................... 55
Assumptions and Limitations .............................................................................. 57
Survey timing ....................................................................................................... 57
Summary ............................................................................................................. 58

CHAPTER 4. RESULTS .......................................................................................... 59
Objective One: Describe Demographic Traits of CALS Peer Mentors ............. 60
Objective Two: Identify How Mentors’ Personal Growth is Affected by their
Experience as a Peer Mentor .............................................................................. 65
Objective Three: Determine Mentor Career Development and Growth from
Experience as a Peer Mentor .............................................................................. 72
Objective Four: Determine Academic Growth and Development Impact from
Experience as a Peer Mentor .............................................................................. 74
Summary ............................................................................................................. 77

CHAPTER 5. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS .......... 78
Objective One: Demographic Traits of CALS Peer Mentors .............................. 78
Discussion .......................................................................................................... 78
Conclusion .......................................................................................................... 79
Recommendation .................................................................................................. 79
Objective Two: Personal Growth from Peer Mentor Experience ..................... 80
Discussion .......................................................................................................... 80
Conclusion .......................................................................................................... 81
Recommendations ................................................................................................. 83
Objective Three: Career Growth from Peer Mentor Experience ..................... 83
Discussion .......................................................................................................... 83
Conclusion .......................................................................................................... 84
Recommendations ................................................................................................. 84
Objective Four: Academic Growth from Peer Mentor Experience .................. 85
Discussion .......................................................................................................... 85
Conclusion .......................................................................................................... 85
Recommendations ................................................................................................. 86

Contribution of ISU’s College of Agriculture and Life Science Learning
Community .......................................................................................................... 86
Contribution to Literature .................................................................................... 87
Importance of Findings ......................................................................................... 90
Further Research ................................................................................................. 91

REFERENCES ...................................................................................................... 93

APPENDIX A. INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL .................. 100

APPENDIX B. FOCUS GROUPS ............................................................................ 101
B-1. Consent Document ..................................................................................... 101
B-2. Script ............................................................................................................ 104
B-3. Peer Mentor Questions ................................................................................ 106
<table>
<thead>
<tr>
<th>Figure</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Figure 2.1.</td>
<td>Vigostky’s Zone of Proximal Development</td>
<td>10</td>
</tr>
<tr>
<td>Figure 2.2.</td>
<td>Composite Definition of Learning Communities</td>
<td>22</td>
</tr>
<tr>
<td>Figure 4.1.</td>
<td>Mean Average of Personal Skill Development from Peer Mentor Experience</td>
<td>68</td>
</tr>
</tbody>
</table>
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Title</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 3.1</td>
<td>Pilot Survey Participant Email Contact Order</td>
<td>49</td>
</tr>
<tr>
<td>Table 3.2</td>
<td>Pilot Survey Question #9</td>
<td>50</td>
</tr>
<tr>
<td>Table 3.3</td>
<td>Pilot Survey Question #10.1</td>
<td>50</td>
</tr>
<tr>
<td>Table 3.4</td>
<td>Pilot Survey Question #10.2</td>
<td>50</td>
</tr>
<tr>
<td>Table 3.5</td>
<td>Survey Participant Email Contact Order</td>
<td>53</td>
</tr>
<tr>
<td>Table 3.6</td>
<td>Classification in Higher Education (ISU)</td>
<td>54</td>
</tr>
<tr>
<td>Table 3.7</td>
<td>Gender Classification</td>
<td>54</td>
</tr>
<tr>
<td>Table 3.8</td>
<td>Ethnic Group Classification</td>
<td>54</td>
</tr>
<tr>
<td>Table 3.9</td>
<td>Survey Question #9</td>
<td>57</td>
</tr>
<tr>
<td>Table 3.10</td>
<td>Survey Question #10.1</td>
<td>57</td>
</tr>
<tr>
<td>Table 3.11</td>
<td>Survey Question @10.2</td>
<td>57</td>
</tr>
<tr>
<td>Table 4.1</td>
<td>Number of Years Served as Peer Mentor</td>
<td>60</td>
</tr>
<tr>
<td>Table 4.2</td>
<td>Survey Responses by CALS Learning Community</td>
<td>61</td>
</tr>
<tr>
<td>Table 4.3</td>
<td>Mentor Training Session Attendance</td>
<td>62</td>
</tr>
<tr>
<td>Table 4.4</td>
<td>Peer Mentor Interaction Themes</td>
<td>62</td>
</tr>
<tr>
<td>Table 4.5</td>
<td>Mentors’ Average # Hours Per Week</td>
<td>65</td>
</tr>
<tr>
<td>Table 4.6</td>
<td>Peer Mentoring Impact</td>
<td>66</td>
</tr>
<tr>
<td>Table 4.7</td>
<td>Means and Standard Deviations for Personal Skill Development from Peer Mentor Experience</td>
<td>67</td>
</tr>
<tr>
<td>Table 4.8</td>
<td>Personal Growth Analyses at Start of Peer Mentor Experience</td>
<td>69</td>
</tr>
<tr>
<td>Table 4.9</td>
<td>Personal Growth Analyses after Peer Mentor Experience</td>
<td>69</td>
</tr>
</tbody>
</table>
Table 4.10. Objective Three: Determine Mentor Career Development and Growth from Experience as a Peer Mentor ................................................................. 70

Table 4.11. Impact of Mentor Career Growth and Development from Experience as a Peer Mentor ............................................................... 72

Table 4.12. Impact of Academic Growth and Development from Experience as a Peer Mentor ................................................................. 75

Table 5.1. Range in Skill Development before and after Peer Mentor Experience ....... 81
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“…blessed is she who believes the Lord will fulfill His promises to her.”

Luke 1:45
ABSTRACT

The purpose of this thesis research was to explore the personal, career, and academic growth of peer mentors within the College of Agriculture and Life Science (CALS) learning communities at Iowa State University (ISU). This study encompassed four objectives: (1) describe demographic traits of CALS peer mentors; (2) identify how mentors’ personal growth is affected by their experiences as a peer mentor; (3) detect mentor career development and growth affected by experience as a peer mentor; and (4) determine academic growth and development affected from experiences as a peer mentor.

For objectives one through four, a census survey was sent to the total population of CALS peer mentors. A total of \(n=76\) valuable responses were collected during the fall 2019 semester. The results were further analyzed using descriptive statistics and basic understanding of target population demographics.

As findings in the literature have speculated, learning communities and their organizations differ. Objective one provided target population demographics to elevate unknown knowledge of learning community population. Gaining a full understanding of the population at large was critical in order to access development throughout and gain understanding of CALS learning community goals.

Objective two accessed peer mentors personal growth or developed from the peer mentor experience. Mentors \((n=61)\) stated that the peer mentor experience provided a positive impact to personal growth in three major areas: (1) interpersonal skills; (2) overall confidence; and (3) connection building.

Objective three developed the understanding of career growth developed from the peer mentor experience. Mentors \((n=60)\) stated that the peer mentor experience has a positive
impact on their career growth and development through four different areas: (1) gained communication skills in regards to career development; (2) confidence in current and future career endeavors; (3) leadership skills; and (4) networking connections.

Objective four looked at the effect that mentors received in regards to academic growth and development from being a peer mentor. This category posed the most variation in gained qualities from being a peer mentor \( (n=35) \). Mentors stated this category had a positive impact on their higher education process and \( (n=31) \) provided insight that there was no impact on academic growth through this program. Those who stated no impact indicated prior academic achievement and knowledge so the teaching of lower level courses did not impact their academic standing.

Hopefully, this study has provided the College of Agriculture and Life Sciences Learning Community programs at Iowa State University a better understanding of the level of growth and development of personal, profession, and career areas. This study has also provided a foundation for ISU as well as similar learning community peer mentors and peer mentor coordinators developing future students through growth and development measures.
CHAPTER 1. INTRODUCTION

Learning communities are at the heart of growth and development for new, incoming college students. These communities are vital to the process of learning and engaging individuals who have entered a new environment and need encouraging positive growth and behavior (Colvin & Ashman, 2010). Higher education systems utilize student peer mentors in learning communities to assist those incoming students through their collegiate life (ISU, n.d.-a). Peer mentors in higher education are utilized through residence halls, colligate majors, or on campus leadership groups, and play an important role in the success of learning communities and its students. Peer mentors provide student support, reapplying learned concepts, while forming and developing relationships with higher education faculty and its students (Colvin & Ashman, 2010). This study focused on the effects on peer mentors, specifically personal, career and academic growth throughout peer mentor experience. To frame this study, I focused on defining learning communities, understanding its benefits, explaining learning community organization and structure, and addressing the benefits of being a peer mentor.

Background of the Study

Incoming students are generally enrolled into introductory level courses required by their specific university and major. Lower level courses are generally lecture-based and have high faculty-to-student enrollments. Iowa State University (ISU) Office of Admissions has stated the average class size includes 40 students per 2 faculty/staff members (admissions.iastate.edu). College places students into new environments, like large classroom settings, that often pose a challenge when beginning higher education experience, in regards to sense of belonging in amidst numerous people. Higher education institutions have used
learning communities to incorporate a sense of belonging to these new and incoming students; not only in large classroom settings but also through student clubs and residence halls.

Learning communities are defined as a program that enhances undergraduate’s experience by providing interested students with dynamic, focused communities in which students, staff, and faculty can learn and grow together through club, residence hall, and class settings (ISU, n.d.-a). A learning community addresses learning needs as a function through partnership, in an attempt of minimizing struggles students may face when entering into higher education. Learning communities use the strengths of social and institutional relationships to bring about cultural shifts in perceptions of the value of learning (Yarnit, 2000, p. 11).

To improve student performance and overall student satisfaction, higher education universities target transitioning first-year and new incoming students through the use of learning communities (Rieske & Benjamin, 2015). Learning communities provide beneficial outcomes that are diverse in terms of student development (Adult Learning Australia, 2000; Yarnit, 2000) and have been seen to improve student academic and social achievement, leading to overall success within higher education (Calderwood, 2000; Gabelnick et al., 1990). Outcomes that produce beneficial effects gained by students through learning community development span social, academic, and psychological domains (Brook & Oliver, 2003). Specific benefits include increased sense of belonging through relationship connection, increased retention rate in regards to new students, and deepened knowledge base on course material (Riske & Benjamin, 2015).
Learning communities exist for the sole purpose of intentionally developing a community that maximizes the individual and shared learning of its members (Lenning et al., 2013). There is ongoing interaction, interplay, and collaboration among the learning community’s members as they strive for specified common learning goals (Lenning et al., 2013). Learning communities generally have three major groups which impact higher education learning including: leading faculty/staff, peer mentor, and peer mentee. Faculty members’ account for the introduction of structured opportunities for students to learn skills, habits, and competencies critical to navigating college and promoting ongoing academic success through a non-peer mentor lens (McHugh Engstrom, 2008). Peer mentors help facilitate communication between all learning community groups, providing information necessary to promote growth through higher education from a peer standpoint (Merriam et al., 1987). Mentees, the target population for learning communities, are given the opportunity to develop a new set of academic and personal growth skills from the mentoring relationship, enhancing their experience through higher education (Casto, Caldwell, & Salazar, 2005). Learning between each party is shared. Not only are the new students entering into higher education gaining understanding of their new environment, but the mentors themselves are also going through a learning process which includes gaining knowledge and understanding (Lenning et al., 2013). Peer learning is an educational strategy in which students learn with and from each other, with direction of faculty, normally within the same class or cohort. The interaction with their peers can result in the development of cognitive or intellectual skills or to an increase in knowledge and understanding (Falchikov, 2001, p. 3).

Most learning communities, under the faculty leadership, rely on student peer mentors as a key to fostering relationships with students (McHugh Engstrom, 2008). Peer
mentors are the upper-division students who serve as a guide, role model, and source of information for students involved in similar major, class, or student group specific learning community (McHugh Engstrom, 2008). Peer mentors assist in classwork, campus awareness, and guide students to promote a successful and valuable experience (lc.iastate.edu, n.d.). This peer connection for new students ensures a sense of strength through the beginning of higher education by providing a developed peer relationship (Colvin & Ashman, 2010). It is critical that peer mentors serve as leaders on-and-off campus and they understand the struggles and hardships that new students may go through to ensure a solid foundation for relationship building (McHugh Engstrom, 2008).

Over the years, there have been ample amounts of research related to how peer mentors benefit learning communities and how the benefit affects the people/students being mentored. Nevertheless, the literature is lacking in describing what the student peer mentors receive from this relationship. This chapter provided a holistic background of learning communities, focusing specifically on the peer mentor piece while gaining an understanding of the developmental effects that are occurred from the peer mentor process. This study was conducted to ascertain how the peer mentors grow and develop throughout their time in this role, looking specifically at personal, academic, and career areas.

**Statement of the Problem**

There is a limited amount of data collected in regards to analyzing and understanding the affects that peer mentors incur from the peer mentor process within learning communities in higher education. In order to fully understand the impact of the learning community program and allow for the best experience for all students, it is critical to evaluate the impact of this program from the mentor side. Understanding the impact through growth and
development will ensure that the peer mentor receives growth and development skills evolving futuristic goals and needs in regard to personal, professional, or academic areas in completion of peer mentor experience building personal growth and contributing to holistic learning community program growth.

**Purpose and Objectives**

The purpose of this study was to explore the impact the peer mentor experience had on the College of Agriculture and Life Science peer mentors at Iowa State University, specifically focusing on their personal, career, and academic developmental growth. Four objectives guided this study:

1. Describe demographic traits of CALS Peer Mentors;
2. Identify how mentors personal growth is affected by their experience as a peer mentor;
3. Detect mentor career development and growth affected by experience as a peer mentor; and
4. Determine academic growth and development affected from experience as a peer mentor.

**Significance of the Study**

The results from this study should provide the College of Agriculture and Life Sciences Learning Communities, ISU Learning Communities, and learning communities as a whole, a foundation of knowledge and understanding of the personal, career, or academic impacts the peer mentors experience provides. As a result of this research, students, faculty, and staff will be better equipped to demonstrate the factors that peer mentors gain or still need continued growth within their mentorship program and tailor the program to the peer
mentors needs. In addition, dissemination of these data will help to inform policies and procedures related to peer mentor training within other colleges and at other institutions.

**Definition of Selected Terms**

The following terms were defined for use in this study:

*Higher education:* Education provided by a college or university.

*Learning communities:* Commitment to student learning, the learning community program further enhances undergraduate’s experience by providing interested students with dynamic, focused communities in which students, staff, and faculty can learn and grow together.

*Peer Mentors:* Peer role models who often have valuable wisdom, which they gained from previous experiences.

*Upper-division:* Students who have completed freshman year classification.

**Summary**

Learning communities and the peer mentoring programs play a key role in growth and development for new students in higher education. In order to develop new students, roles of peer mentoring are utilized. Growth and development from students being mentored is apparent through literature. Having a holistic view and knowledge of how the student mentors are impacted, whether academically, personally, and professionally, will allow growth for the peer mentors and learning community as a whole. Knowledge of mentor growth will leverage the purpose, reasoning, and importance of learning communities. Understanding of benefits to peer mentors will aid in improving the role of this position and provide recognition of growth to mentors throughout higher education experience.
CHAPTER 2. LITERATURE REVIEW

The primary focus of this study was to determine through evaluation the outcomes and benefits that peer mentors within the College of Agriculture and Life Sciences Learning Community (CALS) acquire after completion of the peer mentor process. This chapter encompasses the foundational theoretical framework, evolution of learning communities with an overview of Iowa State Learning communities, definition of learning communities, the overarching purpose of learning communities, benefits of learning communities, organization and structure of such groups; focusing of faculty, peer mentor, and peer mentee relationships, peer mentoring role through learning communities, and concludes with peer mentoring benefits and risks.

**Theoretical Framework for Peer Mentoring**

Throughout the past 50 years, peer mentoring within learning communities has evolved from an innovation adopted through postsecondary institutions to a widespread movement embraced by over 800 colleges and universities (Matthews, Smith, & MacGregor, 2012). Within learning communities, peer mentoring and knowledge development resulting from peer relationships has played an integral role in higher education learning. The theoretical views of Piaget and Vygotsky provided a foundational understanding of the development of learning communities. Piaget and Vygotsky’s theories in relation to learning, focusing on the zone of proximal development, provide understanding of development and growth within the peer mentor process through learning communities.

Piaget beliefs were primarily focused on individual development, where his Theory of Cognitive Development incorporated the view that the social world in which children mature has an essential role to play in the social developmental process (Tudge & Rogoff, 1989).
Vygotsky’s Sociocultural Theory of Cognitive Development places a central focus on social interaction as a avenue in which children develop, with individuals who are more skilled in the intellectual aspects of similar scenarios assisting children in further learning (Tudge & Rogoff, 1989). In some ways Piaget and Vygotsky have very similar approaches. Both argued for the importance of development through the relationship between individuals and their future role in society (Tudge & Rogoff). Although both Piaget and Vygotsky acknowledged the role of the social world and its part in cognitive development methods, their theories differed in the aspect of emphasis on the integration of the social world and individual development (Tudge & Rogoff, 1989).

Piaget’s theory of cognitive development focused on socialization provided important ideas and principles for educators who are interested in peer learning (Lisi & Golbeck, 1999). Piaget’s views of cognitive development through socialization highlight that interpersonal relationships play an important role on the socialization process in relation to learning. The socialization model emphasizes the importance of a two-directional flow of information between the teachers and their students (Bodner, 1986). To test Piaget’s socialization theory, Kruger (1992) explored the role of binary interaction on change in children’s level of reasoning about moral dilemmas; focusing on both peer and adult lead groups. Conclusions suggested peer interaction during middle/late childhood supports moral reasoning, as children are paired with peers, rather than adults, further showing change in reasoning (Lisi & Golbeck, 1999). There is also an important difference in the quality of discussion between peer and adult-peer groups. Developing young adults undertake a more active role in the discussions with peers rather than adults, which further suggests the idea that active engagement of peers is critical for development of moral reasoning (Lisi & Golbeck, 1999).
The literature on peer interactions and children’s logical reasoning provides evidence that peer interactions can promote advancement in performance on Piaget’s socialization assessments and other tasks interpreted within a developmental framework which further support cognitive change (Lisi & Golbeck, 1999).

In contrast with Piaget’s theory of cognitive development, Vygotsky’s Sociocultural Theory of Cognitive Development was built on the premise of individual development cannot be understood without reference to the social situation, both institutional and interpersonal (Tudge & Rogoff, 1989). Vygostsky’s Cognitive Development Theory views human development as a sociogenetic process by which young adults gain understanding about cultural norms and signs through interacting with others in their environments (Hogan & Tudge, 1999). Vygotsky emphasized the impact of interaction with a more skilled peer equal; resulting in his notion, the zone of proximal development, focusing on “problem solving under adult guidance or in collaboration with more capable peers” (Vygosky, 1978).

Interaction between young adults of the same cognitive level can be beneficial, as long as interpersonal conflict is stimulated, but that collaboration is most effective when a young adult is paired with a more advanced equal partner (Hogan & Tudge, 1999). Researchers who investigated Vygotst’y’s theory rationalize that young adult learning can be fostered by interaction with more competent peers established on understanding of the effects of social interactions among peers and that all social interaction necessarily leads to cognitive growth that can serve to facilitate developmental advancement (Hogan & Tudge, 1999). A number of studies indicated the concept of the zone of proximal development provide the students the ability to move to higher level of thinking with help of a more competent partner that will
provide a foundation for higher education systems to implement this form of learning for incoming students (Hogan & Tudge, 1999).

For the purpose of this research study, the theoretical foundation is in direct relation to the zone of proximal development theories of Vygostsky, formulated from ideals of Piaget. The zone of proximal development, demonstrates the difference between what a learner can do without assistance and what he/she can achieve with guidance from a skilled like partner (McLeod, 2009). Vygotsky formulated that when a student is in the zone of proximal development for a particular task, providing the appropriate assistance will give the student encouragement and willingness to achieve said task (O’Hara, 2007). Figure 2.1 provides a visual understanding of Vygostsky’s theory.

![Figure 2.1. Vygostky’s Zone of Proximal Development](image)

Through Vygostsky’s (1987) Zone of Proximal Development theory, the difference between developmental levels of individual problem solving and the level of potential development as determined through problem solving under guidance or collaboration with more knowledgeable peers, sets a foundation for higher education learning systems. This
foundation formulates the understating of current learning communities as they implement peer relations. Peer relationships develop undereducated students by the assistance of highly educated peer mentors (Hogan & Tudge, 1999).

Collectively, researchers can see through Piaget & Vygostsky’s theories of cognitive development that theorists were interested in the development of individuals through peer interactions (Tudge & Rogoff, 1989). Both cognitive development theories have a parallel understanding of foundational developmental and relationship between similar individuals and society (Tudge & Rogoff, 1989). Vygostsky’s and Piaget’s shared emphasis on the value of equal like partners to understand each other through developmental learning, equally expressed the idea that growth of individuals is key when there is a mutual understanding, which is more prevalent in partners in relative age and social setting (Tudge & Rogoff, 1989).

Support from Piaget’s theory of cognitive development that peer interaction may benefit an individual’s social development and Vygostsk’s Sociocultural Theory of Cognitive Development, indicating the benefits of interaction with more progressive peer partners providing assistance (Lisi & Golbeck, 1999) provides a foundation for peer learning. Vygosky’s understanding of the zone of proximal development, describes exploration and development of peer relationships through assistance (O’Hara, 2007). Peers can have the ability to have a profound impact on young adult’s cognitive development (Lisi & Golbeck, 1999). Research on peer collaboration under theories of Piget and Vygosky has led to greater specification of the collaboration to foster cognitive growth and development, which will provide a foundation for futuristic peer learning (Hogan & Tudge, 1999).
Evolution of Learning Communities

Through the evolution of higher education learning, academia has implemented student-centered opportunities to further academic success (Hogan & Tudge, 1999). The evolution of learning communities and its role within higher education systems were based on forces both internal and external to higher education, in order to reach peak student academic performance (Fink & Inkelas, 2015). Describing the origin of learning communities, its development throughout history, and how it is implemented today, particularly at Iowa State University where this study occurs, will provide a holistic understanding of learning communities and their current role within higher education.

The origin of learning communities was founded on the theoretical understanding of higher education established by educational philosophers John Dewey and Alexander Meiklejohn (Fink & Inkelas, 2015). Their insights provided substance and foundation for the contemporary learning community movement. Philosophical thoughts of Dewey and his recognition of the importance of the social nature of all human learning provided a foundation for the learning community process (Kilpatrick et al., 2003). Dewey reasoned that one of the essential roles of education was to teach an individual to participate effectively as a citizen of democracy, while also stressing the importance of experience and application (Minkler, 1998). He valued students’ holistic development and critiqued models of higher education because of the lack of engagement with students and their learning (Matthews et al., 2012). Dewey believed the interaction between pupils was critical in the development of the learner (Minkler, 1998). From the perspective of John Dewey, ideal learning environments should take place in both academic and co-curricular settings through situated learning contexts where a “shared analysis” between students and teachers exist, rather than
one-way transfer of knowledge from the expert to the student (Matthews et al., 2012). Early learning community initiatives began as labor-intensive efforts led by small groups, focusing energies on getting learning community programs established and accepted on campus (Matthews et al., 2012).

Meikeljohn used Dewey’s thoughts to develop his own perspective on the role of educational institutions within society (Matthews et al., 2012). He argued that the increasingly prevalent education systems were becoming incoherent and foresaw the challenge to general education systems throughout higher education disconnect on foundational purposes (Meikeljohn, as cited in Matthews et al., 2012). Meikeljohn’s solution to this included an interdisciplinary, team-constructed curriculum focusing on democracy, in hopes to strengthen relationships between students and faculty, along with focusing on the content of curriculum (Smith, 2001).

Continuing through history, we can trace higher education learning communities, along with the thoughts of Meikeljohn and Dewey, to the University of Wisconsin’s Experimental College, a two-year living learning community founded in the 1920s. Premised on an integrated and interdisciplinary curriculum, the Experimental College promoted active learning and community building through educational and social realms (Meikeljohn, 1932). The Experimental College foundation gave researchers the knowledge and understanding of the importance of peer learning and allowing students with previous experience to aid those who may be going through difficult and challenging situations while also focusing on developmental growth through curricular footprints (Meikeljohn, 1932).

Philosophies of Meikeljohn and Dewey helped establish future learning communities though the “Oxbridge” Residential College Model (Fink & Inkelas, 2015). It was argued that
the motive for establishing early American colleges was to plant British culture and intellect on the rugged and raw terrain which further acclimated students into a precursor of our current living learning communities (Fink & Inkelas, 2015). The Oxbridge Residential College implemented the organization of sleeping quarters, dining halls, lecture halls and common areas, with the overall intent to mold students work, studies, and socialization together through this residential model (Fink & Inkelas, 2015). Despite the “Oxbridge” model and its role through early American higher education, Chaddock (2008) argued that around the turn of the 19th century the increasing growth in student population and questionable value of academic and residential life contributed to the fall of the Oxbridge residential college model.

Throughout the mid 1900’s, there became an increase in the number and diversity of students seeking higher education (Fink & Inkelas, 2015). Through ideals and philosophy of people like Meiklejohn and Dewey, the Evergreen State College was created and brought forth contemporary learning foundations in higher education (Smith et al., 2004). Through the 1970’s the Evergreen State College was founded on a team-taught, yearlong program of study, supported by other college policies and organizational structure (Fink & Inkelas, 2015). In beginning years, Evergreen College worked in collaboration with colleagues from Washington’s higher education community to foster highly effective, low-cost curricular improvement through faculty development, focused on learning communities (wacenter.evergreen.edu, 2016).

As years progressed, the college provided a foundation and need for the development of learning communities. In leading the national project for “Assessing Learning in Learning Communities” Evergreen College developed a multitude of tools that are used for learning
communities throughout higher education (wacenter.evergreen.edu). Today, the Evergreen State College is a higher education institution focused on creating equitable learning opportunities for all students through the strategic use of learning communities and other evidence-based practices of Dewey and Meiklejohn (Fink & Inkelas, 2015). The foundation and understandings of the Evergreen College have led to growth and development of learning communities within a multitude of colleges in the 20th century (Fink & Inkelas, 2015).

One of the universities who adopted some of Evergreen College’s programming was Iowa State University, specifically their learning community approach. Iowa State University (ISU), a public land-grant university, located in Ames, Iowa has an undergraduate population of around 34,000 students. Enrollment statistics report the freshman class consists of approximately 5,500 students (ISU, 2019). More than 75% of all first-year ISU students are involved in a learning community on campus (lc.iastate.edu, 2018).

The Center for Excellence in Learning and Teaching (CELT) is a cross-disciplinary group at ISU of faculty, staff, graduate students, and post-doctoral students that engage in active, collaborative, yearlong program with frequent seminars and activities that provide learning, development, community building, and opportunities for scholarship of teaching and learning (celt.iastate.edu). This program creates a central foundation for learning communities and their learning at ISU, founded upon student-centered efforts of the Evergreen Learning Community (celt.iastate.edu).

In coordination with CELT is the university-level Learning Communities Program at ISU, which spans across all six undergraduate colleges and one interdisciplinary setting, encompassing departments across campus, and residence halls. The Learning Communities office helps to coordinate and support over 90 learning communities and over 87% of first-
year students participate in some type of provided learning community (ic.iastate.edu). With varying types of learning communities for incoming students, each learning community is unique. Differing types of learning communities not only focus on a single topic or idea, but are areas for students to grow and prosper in a multitude of functions, both academically and personally (Smith et al., 2004).

The mission of Iowa State University’s Learning Communities is to support Iowa State University’s commitment to student learning. The learning community program “enhances undergraduates’ experience by providing interested students with dynamic, focused communities in which students, staff, and faculty can learn and grow together.” (ISU, n.d.-a). Learning communities further provide students the ability and motivation to succeed throughout their higher education experience (ISU, n.d.-a). “At Iowa State University, learning communities are small groups of students who generally take one, two, or three courses together and may live the same residence hall” (ISU, n.d.-a). Learning communities range in terms of major, interest, or residence hall. There are a multitude of activates available for students through learning communities. Activities include study groups, career exploration, hands-on experience and service-learning, social activities, and community service projects (ISU, n.d.-a).

The College of Agriculture and Life Sciences (CALS) learning community, one of the seven overarching ISU learning communities, consists of twenty learning communities that are actively involved in departments and clubs on campus within CALS (lc.iastate.edu). Each program has its own purpose and learning goals for students. The general goals and objectives for each of the learning communities encompass opportunities that provide a more structured and frequent interaction among students and with faculty and staff in their specific
department (lc.iastate.edu). These interactions provide opportunities for students to work cooperatively and productively with others including upper level students, otherwise known as mentors (ISU, n.d.-b). Such mentors are used to help facilitate students transition to Iowa State University through targeted activities and programs which help students gain and refine academic abilities through linked course, develop career interests, and adapt more easily to colligate life while networking with businesses, professors, and most importantly peers (ISU, n.d.-b).

From the foundations of Piaget, Vygostky and the Evergreen College, ISU learning communities provide one example of the multitude of implemented learning communities through higher education. The foundations of social and cognitive development theories continue to be the root of learning community development (Matthews et al., 2012). Originally strategized for enrolling cohort groups of students in commons classes organized around similar themes, learning communities have surfaced across the higher education with a similar purpose, improvement of students (Taylor, 2003). As learning community programs continue their development and growth, program needs are addressed by improving the needs of its students and increasing quality of student engagement and learning (Matthews et al., 2012). Researchers look to the future of learning communities throughout higher education, recognizing learning community initiatives have grown and become more complex over time, but there is a promising continuation for growth and development (Matthews et al., 2012).

**Defining Learning Communities**

Learning communities have become a national movement with estimated 500 colleges and universities offering tailored student services (Smith, 2001). Increased
opportunities offered by learning communities for peer learning and interaction, allows for
development of rich, complex ways of thinking and knowing, encouraging the
development of complex avenues of intellect and knowledge at a profound level (Zaho &
Kuh, 2004). This section will define learning communities, establish three overarching
learning community purposes, and describe diverse avenues within learning communities
which provide opportunities for higher education development.

Detailed learning community models have been implemented within American
colleges and universities which forces such communities to design their systems based on
specific needs, goals, and resources (Otto et al., 2015). Learning community models at four-
year schools include small to large numbers of linked courses, clubs, or residential
components that can target specific subgroups of students (Otto et al., 2015). Although
learning community models may vary, the term “learning community” is ubiquitous in higher
education, referring to on-line courses, on-campus living arrangements, faculty research
groups, or colleges and universities as a whole (Love, 2012, p.15).

Throughout the development of learning communities the term is most commonly
associated with intentional restructuring of the curriculum and student course-taking patterns
to emphasize an interdisciplinary focus with narrowed concentration on students’ academic
and social development (Love, 2012). Learning communities in general, described by Elon
University, as “communities that emphasize collaborative partnerships between students,
faculty, and staff, and attempt to restructure the university curriculum to address structural
barriers to education excellence” (Elon University, 2018, p. 1). For the sole purpose of this
study, the definition of learning communities provided by Iowa State University was used.
Learning communities at ISU are defined as the colleges’ commitment to student learning,
the Learning Community program further enhances undergraduate’s experience by providing interested students with dynamic, focused communities in which students, staff, and faculty can learn and grow together (ISU, n.d.-a).

The establishment of learning communities provides opportunity to use peer relationships for growth and knowledge development (Zaho & Kuh, 2004). Peer relationships between a more experienced student are valued to educate students who are unacquainted of a new situation they are entered in, having this relationship further encourages the development of skillsets for future endeavors (Zaho & Kuh, 2004). Learning communities facilitate the sharing of knowledge and allow for the potential to create new knowledge that can be used for the benefit of all parties in the relationship or learning community as a whole (Kilpatrick et al, 2003). Learning communities will continue to flourish if needs are addressed through reasoning with issues and problems, communicating and working with people from diverse backgrounds, views, and collaborate with learned experiences (Bielaczyc & Collins p. 19).

Researchers describe three general overarching developmental purposes for learning communities within higher education. The first developmental purpose focuses on the personal element of communities, and the benefits that accumulate from building on the interactions of individuals in common situations with similar interests as they work toward a shared understanding of growth in knowledge and skills (Kilpatrick et al., 2003). Learning communities are developed to aid groups of people, who are linked either geographically or by shared interests, to collaborate in partnership addressing learning needs (Zaho & Kuh, 2004). This form of community education encourages collaborative social cohesion, community building through social, cultural and economic development (Kilpatrick et al.,
2003). Residential learning communities can be influential as they tend to be associated with greater social interaction among peers and extracurricular involvement through higher education resulting in higher persistence, increased graduation rates, and greater increases in critical thinking and reading comprehension (Zhao & Kuh, 2004). Learning communities encourage incorporation of active and collaborative learning activities that promote involvement in academic and social settings, extending beyond the classroom that further allow students to develop personally through this process (Zaho & Kuh, 2004).

The second developmental purpose of learning communities encompasses academic structures as the means of development of learning through academic functions (Kilpatrick et al., 2003). Learning communities use curricular opportunities linked through educational coursework, which aid in development of the mental capacity of educational learning, allowing students to have opportunities for deeper understanding of materials being learned and acknowledging interaction with peers and faculty (Kilpatrick et al., 2003). Learning communities, from a curriculum standpoint, are primarily seen as benefiting individual learners, rather than the collective group in regards to less emphasis on sharing knowledge and skills, and the potential to create new knowledge (Kilpatrick et al., 2003). Zaho and Kuh (2004) concluded students who participate in learning community programs throughout higher education are positively linked with increased student academic performance. Levels of academic effort, academic integration, and active and collaborative learning are all skills that appear to have developed and grown from involvement through learning communities (Zaho & Kuh, 2004). Regardless of the use of learning community, much of the knowledge and framework that leads to the overarching goal of learning communities is displayed
through academic realms that will add academic development to students throughout higher education experience (Kilpatrick et al., 2003).

The third developmental purpose established through learning communities is career advancement. Benefits include aspects of leadership, communication, goals, and development in higher education mentorship when looking at future career aspirations (Chang et al., 2016). A study completed by the University of Arizona looked at career goals in terms of its relation to being a mentor throughout higher education. It was noted that individual mentoring experiences and expectations were influenced by the participants’ career aspirations (Chang et al., 2016). Participants in learning communities expressed a desire to advance their leadership positions and tended to take an active and intentional role into their professional careers, pursuing and enhancing career opportunities (Chang et al., 2016). Kram (1958) summarized mentoring functions as a use of organization influence to provide opportunity for mentees to gain exposure and visibility to different aspects of industry and development (Eastman, 1993). Overall, a major function of a mentoring relationship is to facilitate a person’s career growth and success through the development of skills honed for future career achievement (Eastman, 1993).

Learning communities give incoming and continuing students a chance to network and grow by providing resources at their local university with a tailored focus through multiple avenues of collaboration (Otto et al., 2015). Figure 2.2 provides a holistic understanding of all avenues within different types of learning communities. The middle row displays the variation in actions and efforts produced by different learning communities. The figure suggests learning communities encompass a multitude of areas, but end up with a
common goal, encouragement and support for those in a student cohort (Kilpartick et al., 2003).

Student-led learning communities are often acknowledged as a high impact practice (HIP) to improve the student success in higher education because it tailors to specific student needs and development (Otto et al., 2015). Not one learning community is the same much like the students who are participate. In order to fit student needs, there is variation in learning techniques as well as methods, tailored specifically in learning communities that will help all students reach highest potential (Otto et al., 2015).

Learning communities are put in place to enhance undergraduate’s experience by providing interested students with dynamic, focused communities in which students, staff, and faculty can learn and grow together (lc.iastate.edu). Understanding learning community’s purpose of academic, career, and personal development through the peer mentoring process sets a foundation for understanding and developing student growth.
Purpose and Roles of Learning Communities

Peer learning through the facilitation of learning communities provide students the tools necessary to learn with and from one another, normally within the same class or cohort (Falchikov, 2001). Overall, the purpose of learning communities is to provide a space and structure for those involved to align to shared goals (Pengie, 2015). Learning communities applied through higher education serve five overarching purposes: (1) connecting people; (2) setting goals and measuring collective progress; (3) enabling shared learning; (4) providing support; and (5) accelerating the progress toward academic success (Pengie, 2015). Higher education systems further use the learning community purposes as a foundation in design to enhance collaboration and expand learning that links students with similar interests through academic establishment, providing increased intellectual interactions and social advancements (O’Banion, 1996).

The first purpose of learning communities is connecting people. Learning communities provide the tools and resources for students in higher education to access a diverse group of students with similar interests allowing for new connection of ideas, learning opportunities, and diverse experiences (Pengie, 2015). Research confirms that the development of professional and personal relationships among students, faculty, and industry professionals improves the facilitation of learning community interactions (Ancar et al., 2007). Learning communities incorporate active and collaborative learning for the promotion of engagement through academic and social behaviors that extend beyond the classroom (Zaho & Kuh, 2004). By incorporating connections through learning environments, learning community approaches have been utilized to promote positive relationships through
academics, openness to diversity, and personal as well as interpersonal development (Zaho & Kuh, 2004).

The second purpose encompassed through learning communities includes setting goals and measuring collective progress through higher education. Learning communities align participants around common goals, measurements of achievement, and areas of improvement for future achievements (Pengie, 2015). Having a sense of shared vision and purpose has been found to be an important focal point of student learning (Bolam et al., 2005). Ensuring that students collectively understand course material and objectives can aid or prevent miscommunication from teacher to student in higher education learning (Bolam et al., 2005). To measure collective progress, self-reflection has found to be effective to gauge improvement for future achievements (Riveros et al., 2012). Dewey argued that teacher reflection upon their practices would bring about benefits to the entire schooling system (Riveros et al., 2012). The reflection being done is not an isolated activity but a practice that would be completed in a community setting with peer collaboration and discussion (Riveros et al., 2012). Peer collaboration within learning communities needs to engage in reflection of higher education practices that pertain to learning communities in order for progressive learning community improvement (Riveros et al., 2012). Similar goal setting and progress for future learning community advancement set foundation for the purposes of learning communities.

The third purpose of learning communities focuses on enabling shared learning through student evolvement. Learning communities provide an environment of shared learning for engaged and new experiences that help to deepen collective knowledge (Pengie, 2015). Shared learning is evident through shared knowledge creation where learning
communities interact and engage in a multitude of learning experiences and opportunities (Bolam et al., 2005). Having learning communities prioritize knowledge growth, students can actively construct and understand knowledge through peer learning process, which may result in higher retention and understanding of academic and non-academic material (Zhao & Kuh, 2004). With a purpose of growth though shared learning, learning communities incorporate group learning to deepen understanding of higher education curriculum (Pengie, 2015).

The fourth purpose of learning communities integrates a support system while entering into a new environment. Learning community involvement provides support through a wide range of leadership roles and skill-building opportunities (Pengie, 2015). Support provided through learning communities will ensure that students through higher education have the ability to surpass levels of development and understanding (Pengie, 2015). An autoethnography completed by a group of scholars focuses on leadership development through mentoring in higher education provided support through assistance, guidance through new situations, and the importance of development of leaders both formally and informally for development of peer relationships (Chang et al., 2014). Findings emphasized the importance of institutional leaders, colleagues, and individuals providing information and promoting relationships that provide the benefits of mentoring to broaden areas within academe (Chang et al., 2014). Learning communities provide a basis of leadership for those involved and will strengthen the knowledge of those who are already possessing leadership qualities (Pengie, 2015).

The final overarching purpose of learning communities is to facilitate learning to engage academic success (Pengie, 2015). Learning communities have been associated as a
strategy for increasing retention and enrichment in undergraduate higher education (Jacobi, 1991.) A study through Iowa State University looked at how factors of academic success are impacted for freshman residence hall student learning communities. Results showed that students who were involved in learning communities performed better academically than those who were not members of such community (Zheng et al., 2002). They concluded that student success of such learning communities is a result of students studying together (Zheng et al., 2002). The facilitation of academic success through learning communities allows higher education faculty the added benefit and assurance that students are performing to their best ability with the assistance of peers (Pengie, 2015).

The sole purpose of learning communities is to provide a space and structure for those involved to align around a shared goal (Pengie, 2015). Learning communities exhibits five purposes; connecting people, setting goals and measuring collective progress, enabling shared learning, providing support, and accelerating the progress toward academic success to fully and adequately develop meaningful and lasting learning communities (Pengie, 2015).

Learning Community Benefits

Learning communities have become a growing national movement (Smith, 2001). Higher education systems are implementing learning community programs because of the benefits students realize from such communities (Cantwell & Scevak, 2014). In order to improve student performance and overall student satisfaction, universities look into programs targeting first-year and new incoming students to aid in transitioning, such as learning communities (Rieske & Benjamin, 2015). Numerous benefits associated with collaborative learning communities span social, academic, and psychological domains (Brook & Oliver, 2003).
First, learning communities provide an aspect of social support. Used in the term “community” learning communities provide systems and processes through higher education for meeting basic student needs including a sense of belonging, support through community values, and purposeful meaning (Brook & Oliver, 2003). Many first-year students experience isolation and uncertainty in making the transition to higher education (Cantwell & Scevak, 2014). The opportunity for incoming students to join learning communities that are easily accessible can increase student retention, growth and development through higher education and overall academic success (Rieske & Benjamin, 2015). Learning communities enhance connections and opportunities for involvement on college campus, strengthening social standards of students who participate (Arendsdorf & Tincknell-Naylor, 2016).

Learning communities also provide a sense of academic advancement. First year learning communities linked with seminar classes have resulted in increased retention and graduation rates, greater student satisfaction and increased desire to network with faculty and staff (Barefoot et al., 1998). Incoming students face a new sense of independence, being introduced to new technologies, enhanced academic workload, and the challenge of finding a solid support system focused on academic success while going through these changes (Rieske & Benjamin, 2015).

Examples of academic growth can be found in a multitude of higher education systems. At the University of Central Florida science, technology, engineering, and mathematics (STEM) learning community, annually recruiting 200 first year students (Dagley et al., 2015). Overall, retention of the STEM learning community is 43% higher those outside of the learning community. Students participating in the STEM program also graduated at an average rate of 12 percentage points higher than students who were not in
STEM learning community (Dagley et al., 2015). At the University of Michigan, a study was performed related to minority women in STEM learning communities examining effectiveness of a living-learning community (Maltby, et al., 2016). The results formed that women in STEM were more likely to receive an undergraduate degree in science and nearly three times as likely to receive a master’s degree in science (Maltby et al., 2016). Results indicated that one year of this learning community can meaningfully impact persistence of students in STEM learning community and enrolling in higher education graduate programs (Maltby et al., 2016). Both of these studies revealed that there are promising academic long- and short-term benefits from learning communities. Learning communities provide assistance through academic development and foster growth of through academic realms.

Learning communities also bring psychosocial benefits with the program. Through the application of learning community students can alleviate academic issues common among most students and further their psychological well-being. Learning communities positively affect students’ sense of belonging, academic and social concerns, academic integration, and interest in higher education life (Solanki et al., 2019). Learning communities allow for academic success to be connected to relational development (Grills et al., 2012). Healthy connections between peers that are fostered through learning communities’ results in an empowering group that allows for development of psychological well-being throughout students’ higher education (Grills et al., 2012).

Within higher education, learning communities allow for integration of academic, intellectual, and social experiences with an overarching idea that ultimately such integration enhances academic performance, social values and understandings as well as psychological growth (Grills et al., 2012). Learning communities can further provide a multitude of
benefits to members, whether faculty, mentor or mentee, in growing individually or collectively by developing growth and knowledge through higher education, enhancing the potential for success (Kilpatrick et al., 2003).

Learning Community Organization and Structure

Structures of learning communities are aligned with similar strategies used by schooling systems throughout higher education in order to foster school and student improvement (Roberts & Pruitt, 2004). Learning communities that enforce peer mentorship learning generally have three involved groups: leading faculty/staff, peer mentor, and peer mentee. The key to furthering school and student improvement includes fostering relationships and knowledge development through these three groups of learning community people (Roberts & Pruitt, 2004).

Faculty and staff in learning communities provide leadership and assistance by sharing ideas for improving instruction through the peer mentors and by opening their classrooms to new learning and fostering student relationships (Roberts & Pruitt, 2004). Through higher education settings, faculty, if there are multiple, work together to link course content and coordinate assignments and activities so that they build up collectively allowing for a more applied knowledge base and understanding (McHugh Engstrom, 2008). Through learning communities, faculty allows for the introduction of structured opportunities for students to learn skills, habits, and competencies critical to navigating college and promoting ongoing academic success through a non-peer mentor lens (McHugh Engstrom, 2008). Faculty and staff have a significant role in setting a foundation for learning community success by providing a leadership role that is consistent for all students involved (Roberts & Pruitt, 2004). Due to various efforts of faculty working together and identifying curricular
and relational development, student learning has been noted as more relevant, enjoyable, and overall, better in terms of personal experience (McHugh Engstrom, 2008).

Through most learning communities are led by faculty leadership, student peer mentors are the key to fostering relationships with students (McHugh Engstrom, 2008). Student mentors help facilitate communication between mentor and mentee along with younger student(s) providing information necessary to promote growth through higher education (Merriam et al., 1987). Scholars such as Astin et al. (cited in Colvin & Ashman, 2010) studied the importance of fellow student interactions and encouragement of students to becoming involved on campus, suggesting that academic involvement and interaction with faculty as well as fellow students increased the time, physical, and psychological energy that students devote to academic experience. Mentors then have the opportunity to expand their professional knowledge and skills through their previous experiences, developing a wealth of skills and knowledge (National Mentoring Partnership, 2020). Overall, peer mentors are valuable to learning community students and universities because their services contributed to student’s academic and social support, retention, along with academic achievement (Rieske & Benjamin, 2015).

Learning community mentorship relationships assist mentees giving students the opportunity to gain practical knowledge and insight from the relationship with their experienced mentor (National Mentoring Partnership, 2020). Mentoring develops the relationship between mentor and mentee while providing assistance to the mentee in terms of academic and personal growth through higher education (Casto, Caldwell, & Salazar, 2005). Mentees under the assistance of mentors and faculty members are given the ability through assistance to provide academic, personal, and career foundations through the mentorship
process. Student mentees who face challenges through higher education but have a mentor are 55% more likely to be enrolled in college than those who do not have a mentor (The Mentoring Effect, 2014). In addition to better school attendance, mentored youth maintain better attitudes towards school (Mentoring Impact, 2015). Students who meet regularly with their mentors are 52% less likely than their peers to skip a day of school and 37% less likely to skip a class (Kennely & Monrad, 2007). Overall, mentoring guarantees students with the understanding that there is someone is there for them, assuring students they are not alone in dealing with day-to-day challenges, and produces a sense of worth and need throughout higher education (Mentoring Impact, 2015).

Successful peer mentoring within higher education is the result of relationships among students, mentors, and instructors (Colvin & Ashman, 2010). Mentoring is an effective method of helping those inexperienced mentees develop and progress in their profession through peer mentoring and faculty provided instruction (Byington, 2010). Faculty, mentors, and mentees should all work together to develop mutually agreed upon goals that will become the basis for mentoring (Byington, 2010). Collaboration and shared learning through peer mentoring not benefits only mentees, but mentors and staff (Colvin & Ashman, 2010).

**Peer Mentoring Role in Learning Communities**

When it comes to staffing learning communities members within higher education systems, many learning communities rely on student-led staff members, often referred to as “peer mentors,” to provide assistance to students and address the goals of the program (Rieske & Benjamin, 2015). Peer mentors play an important role in influencing peer motivation, beliefs, engagement, and achievement (Miller, Groocia, Miller, 2001), resulting
in peers who have a significant impact on other students’ learning experiences. The role of the peer mentor through learning community development includes five specific roles: (1) connecting link; (2) peer leader; (3) learning coach; (4) student advocate, and (5) trusted friend (Colvin & Ashman, 2010).

A connecting link is a student that helps other students inside and outside of the classroom get involved with their campus and education (Colvin & Ashman, 2010). A majority of mentorship in higher education is centered on helping the students feel comfortable on campus and knowing the resources available (Colvin & Ashman, 2010). When mentors function as a link, mentors are more able to help students mentees feel comfortable with the university campus through knowledge of location of buildings on campus, attending athletic events, or finding places to eat on campus (Colvin, 2015). Peer mentors will, in turn, familiarize students with institutions systems, resources, and development possibilities through their journey in higher education (Minor, 2007).

Mentors, through learning community programs, are seen as providing leadership to students in the classroom (Colvin, 2015). Peer mentors encourage their mentee students to become involved on campus, study more efficiently, and improve academically (Colvin & Ashman, 2010). This mentor role has a responsibility of assisting with organization of activates, programs to enhance student mentee academic development in the classroom (Minor, 2007). With the ability to work alongside faculty and peers, mentors have the ability to gain leadership skills through this role of communication between multiple relationships (Colvin & Ashman, 2010).

A peer mentor helps students identify learning strengths, styles and assist mentees to achieve their highest potential within higher education (Sanft et al., 2008). When
transitioning into college, orientation leaders, an example of a peer mentor, are committed to helping new students successfully begin their college experience (Rieske & Benjamin, 2015). Academic peer mentors help assist faculty in providing academic and/or personal advising to other students (Rieske & Benjamin, 2015). Mentors are further seen as providing an example as well as someone who teaches and aids in wholesome study habits, strategies for learning, how to study for exams, and write papers (Colvin, 2015). Peer mentors provide opportunists to teach students important academic and life skills from a peer perspective (Colvin & Ashman, 2010).

Peer mentoring also includes the role of student advocate, which is a liaison between the student relationships and instructor (Colvin & Ashman, 2010). Peer mentors receive clear direction and expectations about their responsibilities from faculty in order to ensure students compliance with course requirements, policies, and other expectations of the learning community and classroom (Minor, 2007). Studies show students new to classes and coursework within higher education felt the importance of having a contact, such as the mentor, when approaching an instructor (Colvin, 2015). The ability for a mentor to be a student advocate allows the voice of all parties to be acknowledged through an outside perspective and avenue of transfer if there is hesitation (Colvin, 2015).

Mentors are often seen as someone who students can share experiences with both inside and outside of the classroom, creating lasting relationships (Colvin, 2015). Peer mentors, who are resident assistants, nurture the development of students by encouraging a safe and shared community within their residence hall (Rieske & Benjamin, 2015). Students who identified their mentors as friends gained skills that further helped them nurture and
develop through life struggles that they may be facing throughout collegiate life (Colvin & Ashman, 2010).

Considering the multitude of possibilities in a learning community there is not one over-arching definition of “peer mentors.” Similarities within mentoring programs in learning communities lead us to a more conclusive and consistent definition of the term, ultimately helping researchers make more accurate comparisons across the varying programs (Gershenfeld, 2014). “Peer mentors are role models who often have valuable wisdom, which they gained from experience” (Rieske & Benjamin, 2015). Differing peer mentoring roles have diverse responsibilities, while sharing common goals of supporting and providing valuable knowledge to help their peers prosper through higher education (Rieske & Benjamin, 2015).

**Peer Mentorship Benefits/Risks**

Peer mentors play an important role in influencing student motivation, beliefs, engagement, and achievement (Miller, Groocia, & Miller, 2001). As a result peers can have a significant impact on other students’ learning experiences. Almost every aspect of peer mentorship indicates some sort of benefit to each side of the peer relationship (Colvin & Ashman, 2010). Students, faculty, and mentors report benefits and risks in regards to their experiences of the peer mentoring process (Colvin & Ashman, 2010). Benefits include supporting students, reapplying concepts in mentors’ own lives, and developing connections (Colvin & Ashman, 2010). Instructors, peer mentors, and students saw some risks, which included personal life hindrance, negative interactions with students, and interactions with instructors (Colvin & Ashman, 2010).
Research indicates mentorship is a great service opportunity to help others as well as yourself (Colvin & Ashman, 2010). Mentors like being able to help others succeed in their classes and other aspects of life (Colvin, 2015). Mentors indicated that a benefit from being a peer mentor included the increase in involvement with others in the learning community program which developed friendships (Colvin & Ashman, 2010). Mentors develop their own skills when working with peers, which allowed for reapplication of concepts into personal life situations that helped them become a better student and well-rounded person (Colvin, 2015). Finally, developing connections as a peer mentor allowed for friendships to develop with students as well as an increase in ability to interact with others (Colvin, 2015).

However, while the benefits are mentioned often, it is important to mention risks that are seen through peer mentoring (Colvin, 2015). Risk or challenges for mentors generally focus on personal lives and interaction with students (Colvin, 2015). Mentors find that balancing both specific requirements through academic life and personal desire to do well in mentoring as well as prioritizing social life becomes difficult (Colvin & Ashman, 2015). Mentors make themselves vulnerable, put themselves “out there” and risk rejection if students do not accept them (Colvin & Ashman, 2015).

Overall, there are numerous benefits to organizations that implement mentorship programs. Mentorship facilitates growth and development of high-potential leaders (UC Davis, 2018). By allowing mentors to demonstrate responsibility and leadership through their mentor sessions, mentors continue to foster growth as a leader by demonstrating leadership to mentees. Mentorship allows oneself to feel a sense of responsibility to one another and keep one another accountable (UC Davis, 2018). The mentorship process demonstrates visible commitment and continuous learning. Higher education systems have continued to
implement these learning communities that involve mentorship for their numerous benefits. By introducing mentorship, institutions may develop an inclusive, diverse, and collaborative environment that strives for growth and development of all students (UC Davis, 2018).

**Summary**

The overall view and understanding of learning communities and the role that peer mentors have in the learning community program provide a direct link to the zone of proximal development, in understanding that mentors role through higher education program in development of first year students. Learning communities and their peer mentorship programs have numerous benefits for the mentees. Researchers have investigated a multitude of avenues where the mentees have grown and flourished from the impact of peer mentoring programs. The question then lies in deepening our understanding of the peer mentor and their growth within this program.
CHAPTER 3. METHODS

Introduction

In order to assess the effects on peer mentorship of the students within the College of Agriculture and Life Sciences (CALS), a survey-based methodological study was utilized to assess the impact of the peer mentor experience. This study implemented a census survey administered to the CALS peer mentors at Iowa State University (ISU). Dillman, Smyth, and Christian (2014) established the core methods of survey development on the viewpoints of Internet, Phone, Mail, and Mixed-Mode Surveys. Utilizing the survey methodology approach enabled researchers to explore and uncover growth and development skillsets from peer mentors within CALS at ISU. The Iowa State University Institutional Review Board (IRB) approved this study #18-481 (Attachment A).

Purpose and Objectives

The purpose of this study was to explore the impact that the peer mentor experience had on the CALS peer mentors at ISU. Four objectives guided this study:

1. Describe demographic traits of CALS Peer Mentors;

2. Identify how the personal growth of mentors is affected by their experience as a peer mentor;

3. Detect mentor career growth and development is affected by experience as a peer mentor; and

4. Determine academic growth and development affected from experience as a peer mentor.
Instrument Development

The purpose of this study was to determine the impacts, specifically benefits of personal, professional, and career areas to the peer mentors’ overall experience within the peer mentor learning community program. A review of literature did not uncover an instrument that would assist in meeting the objectives and focus of this study. Therefore, a research-developed survey instrument was needed. In order to gather and identify additional information, focus groups were formed to gain an adequate amount of information in regards to peer mentors perspective the impact of the learning community peer mentor experience through higher education. The results of the s were used to develop the survey instrument used in this study.

Focus groups

In order to have a solid foundation for the survey, it was critical for researchers to use a tool that would help develop and identify main themes related to the selected population. Focus groups work particularly well in determining the perceptions, feelings, and thinking of a group of people (Krueger & Casey, 2009). With the lack of knowledge and understanding about peer mentor benefits, focus groups were conducted to first understand from the individuals within a peer mentor learning community program, how this process affected their overall experience. Focus group development was founded on observations from previous literature and used as a tool to uncover new aspects beneficial to peer mentors that would be implemented through survey methodology. To increase transferability, procedures and methods for the focus groups were developed and conducted by researchers following the protocol established by Krueger and Casey (2009).
Method

In order to validate information being collected through focus groups, it is important to have a defined purpose (Krueger & Casey, 2009). It is critical to have a clear, specific purpose statement in order to develop the right questions and elicit the best information possible (Simon, 1999, p. 1). The purpose statement in this study stemmed from the previous literature and was implemented through questions in the focus groups. The research purpose was to determine the effects of the undergraduate peer mentor experience; looking specifically at personal and professional growth through learning communities.

In order to adequately select respondents in a focus group, objectives were determined. Planning objectives upon a foundational purpose ensures the basis of the study has a solid foundation, and the outcomes of the focus group are identified and followed throughout research collection (Krueger & Casey, 2009). Objectives were determined based on a literature review focused on growth and development of mentors, specifically highlighting areas of personal and professional development. The focus groups helped to further formulate survey objectives and tailor survey design on a set of desired objectives.

When selecting for participants, the purpose should guide the decision for selection of participants (Krueger & Casey, 2009). The focus groups consisted of mentors within a subsection of CALS, the Animal & Dairy Science (ANS) learning community peer mentors. Although the specific group measured for data collection is usually homogeneous, the study design calls for a number of groups with varied characteristics, to learn more about the differences among subgroups of the population (Ward et al., p. 267). There was a total of 41 peer mentors within ANS. Peer mentors ranged in terms of gender, ethnic group, years of service as a mentor, and classification in school.
Single-category design was utilized for understating of focus groups knowledge saturation (Kruger & Casey, 2009). The number of groups needed to reach saturation can vary, but usually the researcher will plan for three or four groups with particular type of participant and decide of adequate saturation occurred (Kruger & Casey, 2009). For this study, there was a total of five focus group sessions. The researcher and thesis committee were able to conclude the representation of focus groups provided reached saturation with five focus groups. They received a list serve of ANS peer mentors from ANS learning community coordinator and contacted all students through email to inform purpose, objectives, focus groups time slot availability, and confidentially details. After the maximum of 9 students had indicated interest in the time slot, the group was labeled “full.”

Focus groups are effective when participants feel comfortable, respected and free to give their opinion without being judged (Kruger & Casey, 2009). Snacks and water were provided during each focus group session to assist in student comfort. Kruger & Casey (2009) stated food can help a focus group with the understanding that eating together tends to promote healthy conversation and communication. As each student entered into the focus group session, they were asked to sign a consent form (Appendix B) and the moderator restated if at any time throughout the focus groups they felt the need to leave or were uncomfortable in any way they were welcome exit the focus group. Five one-hour focus group sessions were conducted.

The main purpose of focus group research is to draw upon respondent’s attitudes, feelings, beliefs, experiences, and reaction in a way in which would not be feasible using other methods and would most naturally be evolved through a social gathering (Gibbs, 1997). In facilitation of focus groups, studies have shown benefits of direction and coordination
from two people who share the planning, recruiting, moderating/assisting, and analysis
(Kruger & Casey, 2009). Sessions were conducted with a mediator and observer.

The mediator facilitated the focus group conversation and the observer took notes on
facial expression, key themes, and overall experience for focus group session. With the social
interaction in mind, researchers felt it would be beneficial to highlight the ideas of attitudes
and facial expressions through this methodology of research to confirm feelings which could
not be transcribed by audio recordings.

Prior to conducting research, an application was made and approved by the
Institutional Review Board at Iowa State University to conduct the study (see Appendix A).
The mediator and observer performed, moderated, and assisted students throughout each
session, avoiding leading focus group participants into questions and answers. A script
(Appendix B-1) with a general welcome, overview of topic of discussion, ground rules,
verbal consent of recording of the focus group sessions, and a list of probing questions was
developed and implemented during each group. Additionally, a written plan was developed
along with a list of semi-structured, guiding questions (Appendix B-2) to help maintain the
consistency and flow throughout each of the focus groups.

The purpose of the focus groups stemmed from the lack of knowledge and literature
information related to peer mentor growth and development. Through the focus group, the
researchers goal was to help formulate and understand the respondents’ stance by
acknowledging their voice. Focus groups ultimately provide the assurance for majority of
individuals directly involved, by focusing on the nature of the problem and types of
information that will come from solutions in the future, by organizing central themes around
the main idea (Krueger & Casey, 2009).
Implementing the focus group

With viewpoints of Krueger & Casey (2009) in analyzing focus groups results, researchers formulated the data collection of this study. Emails were sent out to the focus group population explaining the focus groups purpose, next steps, voluntary attendance, and use of research for learning community benefit. Peer mentors were able to sign up for time slots that best fit their schedule on the focus group day. A follow up email was sent with confirmation of focus group time slot, meeting room, purpose, objectives, voluntary agreement and confidently statement (Krueger & Casey, 2009). Focus group participants were asked to attend their desired time and encouraged to provide any input they had on the questions the mediator provided as well as any other components they felt could benefit the purpose of this study. All focus group sessions were audio recorded with the approval of focus groups participants. Each session was transcribed and analyzed for reoccurring themes. Both the mediator and observer recorded field notes and observations from each of the sessions for accuracy of the audio recordings.

Data analysis

Through a Classic Analysis Strategy (Krueger & Casey, 2009) focus group researchers organized their findings by capturing reoccurring themes highlighting areas of frequency, specificity, and emotion that will later be used in survey development. Techniques of analysis encompassed systematic, verifiable, sequential, and continuous qualities (Krueger & Casey, 2009) of identifying themes within qualitative data research. Data were qualitative and transcript-based including field notes and supplemented with noted based and memory-based information (Krueger & Casey, 2009). The researcher reviewed audio-recorded notes and studied field notes using a collaborative process to identify common themes (Krueger &
Casey, 2009). Data analysis was systematic through the planned process (Krueger & Casey, 2009) and analyst triangulation was used to ensure validity and reliability of this study (Thurmond, 2001). The combination of focus groups, analysis comparison among the researcher and research assistant, and member checks provided triangulation. All materials were placed under password protection to ensure confidentiality. Focus group approach was utilized in survey objectives and overall understanding of mentor development.

**Focus group results for survey development**

Original objectives of personal and professional development effects from being a peer mentor were derived from the literature and confirmed through focus groups. Themes identified through focus group analysis included:

- **Personal Development:** increased communication skills, increased overall confidence, increased interpersonal communication skills

- **Professional Development:** ability to help students’ transition to new situations, increased time management, leadership development

The focus groups revealed one additional topic that was not uncovered though the literature review- career development. Themes addressed from this topic included:

- **Career Development:** networking opportunities with future employers, strengthen presentational situations in workplace settings

The themes addressed from focus groups helped the researchers develop a solid foundation of questions and content that would be asked in the census survey presented to the target population. Researchers found it critical to re-construct the overall objectives and purpose of the study in regards to the themes identified from focus groups study results. Values related to personal development were still prevalent throughout the focus group. Researchers were
able to break down the original professional development category into two groups: academic and career development. The study’s purpose statement, tailored based on the results of the focus groups and literature review developed objectives uncovering specific affects from the mentor program, highlighting the three developmental aspects of career, academic, and personal development. Issues were also uncovered in understanding each peer mentor group can vary. Researchers found it beneficial to add an objective that would describe the targeted peer mentor population. The final survey-guided objectives from formulation of a literature review and results from the focus groups were:

1. Describe demographic traits of CALS Peer Mentors;
2. Identify how mentors personal growth is affected by their experience as a peer mentor;
3. Detect mentor career development and growth affected by experience as a peer mentor; and
4. Determine academic growth and development affected from experience as a peer mentor.

**Design**

This quantitative descriptive study utilized survey research methodology. All active College of Agriculture and Life Science peer mentors at Iowa State University were the target population for this study. Learning Community coordinators provided a list of all learning communities’ mentors with names and email addressed to researchers. Dillman, Smyth, and Christian (2014) established the core methods of survey development on the viewpoints of Internet, Phone, Mail, and Mixed-Mode Surveys. Dillman (2014) provided
guidelines for implementation of web-based surveys under the foundation of survey and question development.

The survey instrument was largely based upon literature review and focus groups results, consisting of four objectives that guided the design for this study, which included: 1) description of demographic traits of CALS peer mentors; 2) growth and development questions on personal growth impacts of peer mentoring; 3) development questions regarding career development from being a peer mentor; and 4) development questions on how academic growth and development is impacted by peer mentoring. Provided in the survey to participants was the opportunity to list other ways that the peer mentor experience either benefited or impacted their growth and performance through higher education.

The first section of the instrument consisted of items regarding general demographics and analysis of demographics of the survey population. This section was divided into five sub-sections: (1) university identification number; (2) admission & peer mentor service; (3) learning community & involvement; (4) purpose for joining learning community; and (5) mentor campus involvement.

The first sub-section was utilized to gain a demographic understanding through ISU Registrar. The second sub-section utilized a multiple-choice scale question regarding admission type into the university and a select-all multiple-choice scale questions to understand population variation of years in college served as a peer mentor. The third sub-section was provided to gauge representation of mentor learning community within CALS. Mentors were given a list of the 15 learning community options, in addition to an “other” option if mentors served as a peer mentor outside of CALS. This provided the researches information in regard to total representation of learning communities within the population
group. The fourth sub-section was utilized to gain understand of prior training and reasoning for becoming a peer mentor. The survey implemented a select-all question to gain an understanding of trainings taken to aid the peer mentor process. Mentors were then asked to describe interactions through an open-ended question explaining interactions with learning community peer mentors. Lastly, this section asked mentors to explain what prompted mentors interest to becoming a peer mentor. This provided researchers an understanding as to why students originally joined the peer mentor learning community program. The fifth sub-section asked survey participants to demonstrate on a self-guided scale, hours ranging from (0-20) in regards to time spent on informal peer mentoring, formal peer mentoring, and participation in other roles on campus. Informal mentoring described to mentors as setting up meetings, collaborating with other mentors, meeting with mentees outside of group sessions, etc. and formal meetings describes to mentors as meetings with students, one-on-one meetings, etc. to ensure clarification of the asked question.

The second section of the survey instrument formulated questions based on effects of personal growth and development impacts of being a peer mentor. Three sub-sections of this survey section were implemented to understand personal growth and development: (1) perceived peer mentor interactions affecting growth; (2) development of personal growth from beginning of peer mentor experience to today; and (3) overall impact on personal growth and development.

Sub-section one utilized a five-point scale that ranged from (1) *Strongly Disagree* to (5) *Strongly Agree* with an option (6) *Not Applicable*. Participants indicated their level of agreement for nine different items regarding interactions affecting growth and development. Sample items included: “I have regular interactions with other peer mentors,” “Through the
peer mentor program, I have increased my interactions with Iowa State faculty,” and “I have gained an understanding of people with backgrounds that are different than mine.”

To determine the second sub-section of development growth from the beginning of the peer mentor experience to today, a five-point scale, for each start of mentor program and analysis of today, ranged from (1) Poor to (5) Excellent in terms of growth factors. Participants indicated their level of growth from the start of the program to today for 11 different items. Sample items of development skills included: “confidence level, teamwork, interpersonal communication skills, and leadership.”

The final sub-section was implemented in expectations of developing an understanding of overall effects of personal growth and development from the peer mentor experience. Participants were given a three-point scale to determine the amount of impact whether negative, no impact, or positive the peer mentor experience regarding personal growth and development. The survey then introduced an open-ended question that asked participants to explain their level of personal growth recorded in previous question, giving the researchers a better idea of positive, negative, or no impact growth from the peer mentor population.

The third section of the survey gained an understanding of how career development is impacted by peer mentoring. Using a three-point scale multiple choice question, which included positive, negative, and no impact regarding the level of impact the peer mentor experience had on overall career development. The survey then introduced an open-ended question regarding the level of development stated from three-point scale in terms of career development to gain a better understanding of three-point scale suggested impact of career development.
The fourth section gained an understanding of how academic growth and development are impacted by the peer mentor experience. Using a three-point scale multiple choice question, which included positive, negative and no impact options. The survey then introduced an open-ended question regarding level of development stated from three-point scale of academic growth and development to gain greater understanding of suggested impact on academic development.

Validation

The researchers used a strategy recommended by Dillman et al. (2014) to validate the survey instrument. Researchers retested a subsample of respondents to confirm they were presented the survey and re-asked a subset of questions from the original survey. The survey instrument was retested to a portion of the pilot group to ensure the reliability and transferability of responses provided. The purpose of this aspect of the study was to further confirm common themes, which were accessed through literature review and focus groups, aiding in the analysis of the affects of personal, career, and academic growth factors from the peer mentor experience within CALS. The retest allowed for key characteristics mentioned from overall survey match the original statement of survey participants (Dillman et al., 2014).

Pilot survey

Data collection

To ensure the reliability and validity of the final survey, a pilot survey study was introduced with the input of themes from the previous focus group study and literature review. A design method tailored by Dillman et al. (2014) was used in developing this descriptive study. Pilot studies can provide multiple benefits when dealing with web surveys
and a new survey instrument. Pilot studies can give the researcher a sense of how respondents will experience the survey, allowing for improvement before implementation of the large survey data (Dillman et al., 2014). Under the list of guidelines provided by Dillmen et al. (2014) for implementation of web-based surveys, a short 16 question, interactive survey was conducted.

Researchers selected the ANS peer mentor group to complete the pilot survey for this study. The distribution list was obtained from the Department of Animal and Dairy Science Learning Community faculty coordinator, which contained 41 student mentors. In accordance with IRB protocols and recommendations from Dillman (2014), researchers made a concerted effort to increase response rate. The researchers contacted the faculty coordinator of the Animal Science Learning Community after survey was distributed in regards to the survey and its purpose, encouraging mentors to complete the survey. Researchers made three different points of contact with potential participants via email (Dillman et al., 2015). This process resulted in 30 total responses (73%), 30 of which were complete and had usable information for data analysis (73%). Table 3.1 illustrates the contact order to participants with responding rates.

Table 3.1. Pilot Survey Participant Email Contact Order

<table>
<thead>
<tr>
<th>Notice</th>
<th>Date sent</th>
<th>Cumulative # of responses collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation to participate</td>
<td>14-Oct-19</td>
<td>18</td>
</tr>
<tr>
<td>First reminder</td>
<td>21-Oct-19</td>
<td>26</td>
</tr>
<tr>
<td>Final reminder</td>
<td>24-Oct-19</td>
<td>30</td>
</tr>
</tbody>
</table>
Results and changes to pilot survey

Qualtrics (Qualtrics Labs, Inc., Provo, UT) was used to implement the survey instrument and collect responses, which automatically recorded the survey responses as mentors completed the survey. To ensure confidentiality, all identifying information was removed before data were analyzed using SPSS version 17.

To ensure reliability of this pilot the researcher performed 3 separate reliability coefficient tests on our closed questions through sections two, three, and four of survey design. Reliability coefficients were calculated using Cronbach’s alpha through SPSS in efforts to measure internal consistency within the three sets of questions. Acceptable values of alpha range from 0.70 to 0.95 (Tavakol & Dennick, 2011). Our results (Table 3.2, 3.3, and 3.4) indicate that survey questions did indeed have consistency while Question 3.2 was just below the acceptable value all other question sets confirm reliability within the survey.

Explanation for variation under a 0.7 indicates that the alpha value could be low due to poor inter-relatedness between items (Tavakol & Dennick, 2011).

Table 3.2. Pilot Survey Question #9

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha based on standardized items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.675</td>
<td>0.7</td>
<td>9</td>
</tr>
</tbody>
</table>

Table 3.3. Pilot Survey Question #10.1

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.886</td>
<td>11</td>
</tr>
</tbody>
</table>

Table 3.4. Pilot Survey: Question #10.2

<table>
<thead>
<tr>
<th>Cronbach's Alpha</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.830</td>
<td>11</td>
</tr>
</tbody>
</table>
In terms of improvement for this study, researchers discovered issues arose in one particular question of this survey (Question 6 in Attachment D). The question indicated “Please explain interaction(s) you had with other learning community peer mentors?” When highlighting themes, students were inconsistent at the interpretation of this question. Mentors stated “I haven’t interacted with other peer mentors from other communities,” “I have only had interactions with my learning community peer mentors,” and “I am not sure I have really had any other interactions with other learning communities outside of the Animal Science Peer Mentor.” The researchers believed this question was not adequately addressed a more descriptive definition to this question was given. Question 6 in the final survey incorporated a more detailed description of the interactions mentors had with learning community peer mentors; whether that be with their own peer group or in another CALS group including planning coordination, training session collaboration, etc. in regards to interactions.

With minimal changes in survey instrument and confirmation of coefficients in regards to numerical questions, researchers were able to present minimal changes and further implement and finalize development of the survey to the CALS peer mentors at ISU, while also including themes from the pilot survey analysis in overall results of peer mentor development.

**Survey Implementation**

Dillman et al. (2014) outlined the recommended steps for survey implementation by internet, phone, mail, and mixed-modes surveys. The first step of survey implementation is to discover targeted population, which can be described as all of the individuals to which one desires to generate the survey results (Dillman et al., 2014, p. 59). The CALS peer mentors
were the target population for the survey methodology of this study. The research methodology for the survey followed Dillman’s guidelines for implementing web-based survey methodology. The survey format initiated from questions addressed though the literature review and focus groups analysis, was tailored to major themes from the mentors’ responses and results from pilot survey data, regarding the format the final survey design for this research. The survey was consisted of 16 questions related to our 4 main objectives (Appendix E). When examining the conceptual framework of the focus groups analysis, the researcher applied the same list of action statements in order to ask and formulate the overall questions.

**Data collection**

The target population for this study consisted of peer mentors from all active 15 learning communities in CALS at Iowa State University. The instrument was distributed via email, which contained a survey link for participants to complete the survey through Qualtrics, an online survey system. The original invitation to the survey was delivered through email and stated the purpose of the study along with the confidentially, risk, voluntary participation, and a link to the survey itself. In accordance with IRB protocols and recommendations from Dillman et al. (2014), the researcher made efforts to increase response rate. Four different points of contact with potential participants were made via email. The response rate to the follow up emails yielded adequate results and a total of three reminder emails were sent based on Dillman et al.’s (2014) recommendations (Appendix F). The email notifications to participants. Table 3.5 illustrates the email contact order to participants. Additionally, to increase the response rate, researchers contacted learning community coordinators to encourage mentors to complete distributed survey.
Table 3.5. Survey Participant Email Contact Order

<table>
<thead>
<tr>
<th>Notice</th>
<th>Date sent</th>
<th>Cumulative # of responses collected</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invitation to participate</td>
<td>2-Dec-19</td>
<td>14</td>
</tr>
<tr>
<td>First Reminder</td>
<td>5-Dec-19</td>
<td>26</td>
</tr>
<tr>
<td>Second Reminder</td>
<td>11-Dec-19</td>
<td>34</td>
</tr>
<tr>
<td>Final Reminder</td>
<td>15-Dec-19</td>
<td>48</td>
</tr>
</tbody>
</table>

(n=113); Note: Does not include Pilot

A total of 113 emails were sent to CALS peer mentors, not including the original pilot responses from ANS learning community. Responses were recorded from 48 (42%) respondents. Survey instrument validity, pilot survey analysis and coefficient validity allowed researchers to add pilot survey data to the conclusions and findings of overall survey data. The total peer mentor population after complied survey and pilot survey data consisted of 154 mentors. Survey data produced 78 responses (response = 51%) from 154 total population. Out of the 78 responses 76 were provided complete and usable content that would be used in the findings of this study (total response rate=49%). However, mentors were not required to answer all questions provided. Results will report total respondents for clarification of population total of each asked question.

Non-response error was determined by using a comparison of the early respondents to late respondents based on Linder, Murphy, and Brier’s (2001) protocol. Independent sample t-tests were used to compare the first wave of (n=14) of respondents; those who responded after the invitation to participation; to the final (n=14). Means of 21 statements were compared and based on the analysis. Researchers characterized groupings of schooling classification, gender, ethnic group in order to gauge the difference in respondents and came
to a conclusion that the similarities between both groups in all 3 categories suggest no difference between early respondents and late respondents. Table 3.6, 3.7, and 3.8 provide the values for each category in comparison. Outcome form this analysis provided knowledge that there was no significance or difference in our population respondents.

Table 3.6. Classification in Higher Education at ISU

<table>
<thead>
<tr>
<th>Schooling Classification</th>
<th>Initial Response</th>
<th>Final Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Senior</td>
<td>9</td>
<td>9</td>
</tr>
<tr>
<td>Junior</td>
<td>4</td>
<td>4</td>
</tr>
<tr>
<td>Sophomore</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Off campus, Non-degree student</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Off campus, Graduate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Graduate</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Non-degree student</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>

Table 3.7. Gender Classification

<table>
<thead>
<tr>
<th>Gender</th>
<th>Initial Response</th>
<th>Final Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>Female</td>
<td>11</td>
<td>12</td>
</tr>
<tr>
<td>Male</td>
<td>3</td>
<td>2</td>
</tr>
</tbody>
</table>

Table 3.8. Ethnic Group Classification

<table>
<thead>
<tr>
<th>Ethnic Group</th>
<th>Initial Response</th>
<th>Final Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>White (not Hispanic)</td>
<td>11</td>
<td>8</td>
</tr>
<tr>
<td>Perfer not to indicate</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Hispanic (Spanish American)</td>
<td>1</td>
<td>1</td>
</tr>
<tr>
<td>Black (not Hispanic)</td>
<td>1</td>
<td>0</td>
</tr>
<tr>
<td>Asian</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>American Indian or Alaskan Native</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Native Hawaiian or Pacific Islander</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Two or More Races</td>
<td>0</td>
<td>0</td>
</tr>
</tbody>
</table>
Data analysis

Qualtrics (Qualtrics Labs, Inc., Provo, UT) automatically recorded all survey responses provided by target population. To ensure confidentially, all identifying information was removed before data were analyzed using SPSS version 17. Descriptive statistics were used to analyze survey data.

Objective 1. Describe demographic traits of CALS Peer Mentors

The first objective focused on describing the peer mentor demographics. Mentors were asked demographic, learning community affiliation, and general mentorship questions to further understand the demographic of mentor population being surveyed. Mentors were given open-ended, multiple choice, and select all questions related to their experience. Questions were analyzed through standard deviations, central tendency calculations, and major themes of mentor development.

Objective 2. Identify how mentors personal growth is affected by their experience as a peer mentor

With the second objective, mentors were asked to gauge their level of personal development resulting from their involvement through the peer mentor experience. Areas of analysis were reported by descriptive statistics including reoccurring themes and personal quotations from survey questions. Frequency, central tendency, and variation were used to report descriptive findings.

Objective 3. Detect mentor career development and growth affected by experience as a peer mentor

The studies third objective focused on detecting career growth considerations of how mentors are affected by their experiences as a peer mentor. To measure the effect of career
growth descriptive statistics were accessed and analyzed. Direct quotations from survey data were provided through open-ended questions. Descriptive statistics including multiple-choice questions were analyzed using with frequency, dispersion, and central tendency measures.

**Objective 4. Determine academic growth and development affected from experience as a peer mentor**

The last and final objective focused on classifying common academic growth topics of how mentors are affected by their experiences as peer mentors. To meet this objective an understanding of descriptive statistics were used to analyze the peer mentor open-ended and multiple-choice question responses. Multiple-choice questions were analyzed by the researcher in terms of central tendency. Major themes were identified from open-ended questions.

Reliability coefficients were used to support and explain results. In reporting the open-ended questions, a variety of themes were pulled from data and found as relevant in terms of occurrence in the data by the researcher, with direct quotations from pulled themes were used to support major findings.

The researcher preformed three reliability coefficient tests on our close-ended questions. Reliability coefficients were calculated using Cronbach’s alpha in efforts to measure internal consistency within the three sets of questions. The results shown in Table 3.9, 3.10, and 3.11 indicated that the survey questions did, indeed, have consistency and confirmed reliability of the survey for these three sets of questions. Acceptable values of alpha range from 0.70 to 0.95 (Tavakol & Dennick, 2011). The values of internal consistency through run analysis fell into this category and indicated internal consistency of this survey section (Tavakol & Dennick, 2011).
Table 3.9. Survey Question #9

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha based on standardized items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.7</td>
<td>0.728</td>
<td>9</td>
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Table 3.10. Survey Question #10.1

<table>
<thead>
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<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha based on standardized items</th>
<th>N of Items</th>
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</tr>
</tbody>
</table>

Table 3.11. Survey Question #10.2

<table>
<thead>
<tr>
<th>Cronbach’s Alpha</th>
<th>Cronbach’s Alpha based on standardized items</th>
<th>N of Items</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.832</td>
<td>0.832</td>
<td>11</td>
</tr>
</tbody>
</table>

Assumptions and Limitations

The study’s findings are specific to CALS peer mentors at Iowa State University. It is important to note there are also peer mentors in the other six ISU colleges and interdisciplinary learning community group. Results may or may not be consistent across colleges. Thus, one might be able to generalize research findings only regarding CALS peer mentors. Additional studies should be done to confirm overarching conclusions in regards to holistic peer mentor growth.

Survey timing

The survey was carried out during the end of the semester, towards finals week at ISU. Students’ focus may have not been at a maximum level. The researcher did give peer mentors the option to respond to the survey after finals had finished but there remained a limitation of prioritizing tasks for students during this time period.
Summary

The purpose of this study was to determine the impacts; personal, academic, and career, for CALS peer mentors at Iowa State University. A review of literature and a focus group study were used to refine the purpose and objectives of the study and develop the survey instrument. Pilot survey data were used to confirm the validity of the survey instrument. Objectives one through four utilized descriptive statistics to understand overall survey data. Survey data were analyzed to better gauge the impact and effects that the peer mentor process had on its students through higher education at Iowa State University.
CHAPTER 4. RESULTS

The purpose of this study was to explore the impact that the peer mentor experience, in terms of academic, career, and personal growth, from engaging in the learning community peer mentor experience through the College of Agriculture and Life Science (CALS) department at Iowa State University (ISU). The study included a researcher-developed survey, which was constructed using the results of qualitative focus groups as well as a literature review. The instrument was tested for reliability by conducting a pilot survey within the sample population; analyzing effects of students’ answers to asked questions. The survey was administered in the fall of 2019 to all peer mentors within the CALS at ISU.

The population of this study was 154 CALS peer mentors. A total of 76 responses were recorded leading to a response rate of 49.4%. Respondents were not required to answer each question of the survey. Results will indicate population number of respondents to each question for clarification of total respondents. The group contained of 11 males (14.4%) and 65 females (85.5%). The respondents were 78.2% white, 7.6% black (not Hispanic), 5.1% preferred not to indicate, 3.8% Hispanic (Spanish American), 2.5% Asian, 1.2% American Indian or Alaskan Native.

Objective one provided a demographic knowledge base of CALS peer mentor population. The results from this objective included peer mentor learning community of origin, number of years as a mentor, preparation details before mentorship role, reasoning for becoming a peer mentor to better understand mentor demographics. Objective two, three, and four all developed a better understanding of mentorship development or hindrance through academic, career, and personal growth aspects after completion of experience as a CALS peer mentor.
Objective One: Describe Demographic Traits of CALS Peer Mentors

Students were first asked to describe their admission type through the peer mentor experience and were given two options: (1) transfer student to ISU or (2) directly from high school (regarding colligate credits earned). Direct from high school mentor included 82.8% (n=63) total mentors and transfer student mentors 17.1% (n=13). Respondents were then asked to indicate the number of years they served as a mentor at ISU (Table 4.1). Options included first, second, third, fourth, and fifth options for students to indicate the years in which mentors served. Results indicated a majority of the respondents indicated that their involvement within the peer mentor experience occurred during their second and third year as an ISU student.

Table 4.1. Number of Years Served as Peer Mentor

<table>
<thead>
<tr>
<th></th>
<th>First</th>
<th>Second</th>
<th>Third</th>
<th>Fourth</th>
<th>Fifth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>4</td>
<td>31</td>
<td>35</td>
<td>19</td>
<td>3</td>
</tr>
</tbody>
</table>

CALS offers a multitude of different learning communities. Respondents were given a total of 15 different options when selecting which learning community to which they represented. Table 4.2 shows the learning communities representation of the respondents. Responses are proportionally representative of the size and number of peer mentors represented for each learning community. Therefore, Animal Science/Dairy Science/Pre-Vet learning community has the to highest response rate of 76% and highest number of potential peer mentors (n=41).
Table 4.2. Survey Responses by CALS Learning Community

<table>
<thead>
<tr>
<th>Learning Community</th>
<th>Responses</th>
<th>Total # Mentors in Learning Community</th>
<th>Indicated Learning Community Response Rate (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Animal Science/Dairy Science/Pre-Vet</td>
<td>31</td>
<td>41</td>
<td>76%</td>
</tr>
<tr>
<td>Agriculture Business</td>
<td>9</td>
<td>15</td>
<td>60%</td>
</tr>
<tr>
<td>Agriculture Education &amp; Studies (AGEDS)</td>
<td>9</td>
<td>14</td>
<td>64%</td>
</tr>
<tr>
<td>Agronomy</td>
<td>1</td>
<td>2</td>
<td>50%</td>
</tr>
<tr>
<td>Biochemistry &amp; Biophysics</td>
<td>2</td>
<td>10</td>
<td>20%</td>
</tr>
<tr>
<td>Biology Education Success Teams (BEST)</td>
<td>5</td>
<td>8</td>
<td>63%</td>
</tr>
<tr>
<td>Fostering Opportunity and Collaboration through Unity and Scholarship (FOCUS)</td>
<td>5</td>
<td>18</td>
<td>23%</td>
</tr>
<tr>
<td>Food Science and Human Nutrition</td>
<td>2</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>Genetics</td>
<td>1</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>Global Resource Systems (GLOBE)</td>
<td>1</td>
<td>4</td>
<td>25%</td>
</tr>
<tr>
<td>Horticulture (HORT)</td>
<td>1</td>
<td>3</td>
<td>33%</td>
</tr>
<tr>
<td>Microbiology (MICRO)</td>
<td>2</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>NREM</td>
<td>0</td>
<td>6</td>
<td>00%</td>
</tr>
<tr>
<td>Science of the Environment &amp; Sustainable Systems</td>
<td>2</td>
<td>4</td>
<td>50%</td>
</tr>
<tr>
<td>Technology</td>
<td>2</td>
<td>17</td>
<td>12%</td>
</tr>
<tr>
<td>Other</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Did Not Answer</td>
<td>4</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(n=78); Note: Animal Science number includes the pilot study respondents

Respondents were asked to indicate any training prior to becoming a peer mentor to gauge background and previous knowledge. The training session options provided included: (1) university-wide, (2) college-specific, (3) other, and 4) all the above. Respondents were also given the option of selecting all of which applied to our specific audience. Respondents indicated that college-specific training session (n=28) and stated attending university-wide trainings (n=19). The results are provided in Table 4.3.
Table 4.3. Mentor Training Session Attendance

<table>
<thead>
<tr>
<th>Training Session Option</th>
<th># Mentor Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>College-Specific</td>
<td>28</td>
</tr>
<tr>
<td>University-Wide</td>
<td>19</td>
</tr>
<tr>
<td>Other</td>
<td>14</td>
</tr>
<tr>
<td>University-Wide &amp; College Specific</td>
<td>4</td>
</tr>
<tr>
<td>College-Specific &amp; Other</td>
<td>4</td>
</tr>
<tr>
<td>University Wide &amp; Other</td>
<td>3</td>
</tr>
<tr>
<td>All of the Above</td>
<td>1</td>
</tr>
</tbody>
</table>

(n=73); Note: Respondents were able to select “All That Apply”

In addition to training sessions respondents were asked to describe interactions that occurred within their learning community, including facilitation of training sessions, through an open-ended question. Respondents were provided examples that included interactions in regards to their own learning community program or with mentors in another mentoring group. Major themes were derived by the researcher for each training type (Table 4.4).

Table 4.4. Peer Mentor Interaction Themes

<table>
<thead>
<tr>
<th>Training Session Option</th>
<th>Major Themes</th>
<th>(n=X)</th>
</tr>
</thead>
<tbody>
<tr>
<td>College-Specific</td>
<td>Increased interactions from Shared Experiences</td>
<td>28</td>
</tr>
<tr>
<td></td>
<td>Increased Networking</td>
<td></td>
</tr>
<tr>
<td>University-Wide</td>
<td>Interactions through weekly planning sessions</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>Interactions with other mentors from training</td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>Weekly Meetings through department or individually</td>
<td>14</td>
</tr>
<tr>
<td>University-Wide &amp; College Specific</td>
<td>Dual training to enhance mentorship experience</td>
<td>4</td>
</tr>
<tr>
<td>College-Specific &amp; Other</td>
<td>Planning session with college &amp; outside trainings</td>
<td>4</td>
</tr>
<tr>
<td>University Wide &amp; Other</td>
<td>N/A</td>
<td>1</td>
</tr>
<tr>
<td>All of the Above</td>
<td>N/A</td>
<td>1</td>
</tr>
</tbody>
</table>
Several themes emerged. The following statements support the overall themes provided in Table 4.4:

College-Specific: “we completed a semesters worth of training, in which we were given the opportunity to interact with other peer mentors, both experienced and new, which allowed us to get a better idea of what had been done in the past along with what to expect for future.”

University-Wide: “each week on Monday evenings I would go to a meeting with our leaning team coordinator and all of the other agricultural business peer mentors. The main focus of these meetings would be to collaborate and plan out the week ahead of us as well as out of class activities on our horizon. We would report on what had been going well and anything that needed to be addressed through a roundtable discussion”.

Other: “I worked with all peer mentors in the AgEds department including ag education, ag communications, and ag studies. We had a few training sessions between the spring and fall semesters as well as weekly meetings following our Monday lecture with the AGEDS 110 class. I worked closely with the other three Ag studies peer mentors to plan materials for Wednesday classes.”

University-Wide & College Specific: “the other peer mentors in my group meet every week to help plan the class we help teach, plan meetings, events and do write ups and attendance and we also attended multiple training sessions provided by the university and college to gain better understanding.”

College-Specific & Other: “I had a fellow agronomy classmate reach out to me to plan a fun social event for our peer mentees on central campus in order to expose them to students in different.”
Next, respondents were asked to indicate through an open-ended question, what prompted them to become a peer mentor at Iowa State University. The researcher took the responses and organized reoccurring themes from the answers provided. Respondents \((n=42)\) indicated their reasoning for serving as a peer mentor was to help students’ transition to their new environment through higher education, aiding in their overall success at ISU. Supporting statements gathered from survey data included “I wanted to become a peer mentor at Iowa State University because I thought it would be a great way to help out others in the College of Agriculture and Life Sciences. I really liked the idea of getting to know incoming freshman and helping them through their journey. Also, I wanted to pass on my love for Iowa State and the Animal Science Department; it’s a special place to be and it is important to me to show others why it is so special.” Themes also indicated that mentors wanted to be a role model \((n=15)\) and leave a lasting impact on students as well as gain leadership skills \((n=10)\) through this process.

Finally, respondents were asked to further indicate how many hours per-week they spent on peer mentor and non-peer mentor activities. Through a self-guided value scale, respondents were able to indicate the number of hours per week they spent on the following activities. Three categories were addressed in this section: (1) peer mentoring (informal); (2) peer mentoring (formal); and (3) leadership roles on campus outside of peer mentor learning community program. The peer mentoring (informal) category included setting up group meetings, collaborating with other mentors, meeting with mentees outside of class, etc. Secondly, peer mentoring (formal) that was described as formal meetings with mentees, one-on-one meetings, etc. Table 4.5 indicates a distribution analysis of the average number of
Table 4.5. Mentors’ Average # Hours per Week

<table>
<thead>
<tr>
<th>Peer Mentoring (Informal)</th>
<th>Peer Mentoring (Formal)</th>
<th>Participating in other leadership roles on campus outside of peer mentor role</th>
</tr>
</thead>
<tbody>
<tr>
<td>2.46</td>
<td>2.64</td>
<td>5.61</td>
</tr>
</tbody>
</table>

\( (n=73) \)

hours respondents spent per week through these functions. The total average hours spent per week collectively on peer mentoring functions (informal and formal) a total of 5.10 hours/week. Similarly, with other leadership roles beyond learning communities on campus, respondents reported 5.61 hours/week.

**Objective Two: Identify How Mentors’ Personal Growth is Affected by their Experience as a Peer Mentor**

The second objective of the study was to evaluate the personal growth of peer mentors. Respondents were asked to report a level of agreement on a 5-point Likert-type scale of strongly disagree to strongly agree in regards to questions that involved the developmental growth comparing the beginning of the peer mentor experience to their personal development skills today. Table 4.6 provides meaningful interactions and frequency of recorded responses. Most interactions fell into categories of agree or strongly agree for each statement.

Respondents were then asked to compare their progress from when they began as a peer mentor to the time they completed this instrument. Respondents were given options of \( (1=\text{Poor}, 2=\text{Fair}, 3=\text{Average}, 4=\text{Good}, 5=\text{Excellent}) \) in regards to their skill level for both “Start of the Peer Mentor Experience” to “Today” (Table 4.7, Table 4.8, Table 4.9 & Figure 4.1). Analysis from this segment. Table 4.7 demonstrates the means and standard deviations
Table 4.6. Peer Mentoring Impact

<table>
<thead>
<tr>
<th>Statement</th>
<th>f=1</th>
<th>f=2</th>
<th>f=3</th>
<th>f=4</th>
<th>f=5</th>
<th>n= X</th>
</tr>
</thead>
<tbody>
<tr>
<td>My peer group provides useful information for my mentees</td>
<td>0.0%</td>
<td>0.0%</td>
<td>1.5%</td>
<td>22.3%</td>
<td>76.1%</td>
<td>67</td>
</tr>
<tr>
<td>Through the peer mentor program, I have increased my interaction with people that have a different background than me</td>
<td>0.0%</td>
<td>1.5%</td>
<td>4.6%</td>
<td>36.9%</td>
<td>56.9%</td>
<td>65</td>
</tr>
<tr>
<td>Through the peer mentor program, I have increased my interactions with my peers</td>
<td>0.0%</td>
<td>0.0%</td>
<td>6.0%</td>
<td>40.9%</td>
<td>53.0%</td>
<td>66</td>
</tr>
<tr>
<td>Through the peer mentor program, I have increased my interaction with Iowa State faculty</td>
<td>0.0%</td>
<td>3.0%</td>
<td>7.5%</td>
<td>39.3%</td>
<td>50.0%</td>
<td>66</td>
</tr>
<tr>
<td>I have gained an understanding of people with backgrounds that are different than mine</td>
<td>0.0%</td>
<td>1.5%</td>
<td>7.6%</td>
<td>40.0%</td>
<td>50.7%</td>
<td>65</td>
</tr>
<tr>
<td>I have facilitated interactions with other peer mentors</td>
<td>1.6%</td>
<td>4.9%</td>
<td>21.3%</td>
<td>22.9%</td>
<td>49.1%</td>
<td>61</td>
</tr>
<tr>
<td>My participation in the peer mentor program has impacted my personal life at Iowa State</td>
<td>1.5%</td>
<td>4.6%</td>
<td>13.8%</td>
<td>35.3%</td>
<td>44.6%</td>
<td>65</td>
</tr>
<tr>
<td>I have regular interactions with other peer mentors</td>
<td>1.5%</td>
<td>10.6%</td>
<td>15.1%</td>
<td>31.8%</td>
<td>40.9%</td>
<td>66</td>
</tr>
<tr>
<td>My participation in the peer mentor program has impacted my academic performance</td>
<td>0.0%</td>
<td>6.0%</td>
<td>28.7%</td>
<td>28.7%</td>
<td>36.3%</td>
<td>66</td>
</tr>
</tbody>
</table>

Likert-Scale: 1=strongly disagree; 2=disagree; 3=neither disagree or agree; 4=agree; 5=strongly agree

for both categories. Results show that the respondents felt strong in development of personal leadership skills after completion of the peer mentor experience. It is also important to note that the most growth, and illustrated in Figure 4.1, came from the category of “meaningful interaction with students”, with an average change of 1.33 on the Likert-scale.
<table>
<thead>
<tr>
<th>Skill</th>
<th>Start of Peer Mentor Experience: Mean</th>
<th>Start of Peer Mentor Experience: Std. Deviation</th>
<th>Today: Mean</th>
<th>Today: Std. Deviation</th>
<th>Change from Start to Today</th>
</tr>
</thead>
<tbody>
<tr>
<td>Meaningful interactions with students</td>
<td>3.22</td>
<td>0.87</td>
<td>4.55</td>
<td>0.58</td>
<td>1.33</td>
</tr>
<tr>
<td>Knowledge of on campus resources</td>
<td>3.22</td>
<td>0.9</td>
<td>4.43</td>
<td>0.56</td>
<td>1.21</td>
</tr>
<tr>
<td>Meaningful interactions with faculty/staff</td>
<td>3.25</td>
<td>1.03</td>
<td>4.38</td>
<td>0.67</td>
<td>1.13</td>
</tr>
<tr>
<td>Confidence Level</td>
<td>3.28</td>
<td>1.04</td>
<td>4.37</td>
<td>0.57</td>
<td>1.09</td>
</tr>
<tr>
<td>Time Management Skills</td>
<td>3.73</td>
<td>0.86</td>
<td>4.28</td>
<td>0.62</td>
<td>0.91</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>3.53</td>
<td>0.96</td>
<td>4.25</td>
<td>0.66</td>
<td>0.9</td>
</tr>
<tr>
<td>Leadership</td>
<td>3.76</td>
<td>0.78</td>
<td>4.56</td>
<td>0.61</td>
<td>0.8</td>
</tr>
<tr>
<td>Interpersonal Communication Skills</td>
<td>3.67</td>
<td>0.93</td>
<td>4.46</td>
<td>0.58</td>
<td>0.79</td>
</tr>
<tr>
<td>Teamwork</td>
<td>3.98</td>
<td>0.75</td>
<td>4.43</td>
<td>0.61</td>
<td>0.45</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>3.91</td>
<td>0.88</td>
<td>4.34</td>
<td>0.64</td>
<td>0.43</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>3.79</td>
<td>0.71</td>
<td>4.17</td>
<td>0.6</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Likert-Scale: 1=Poor; 2= Fair; 3=Average; 4=Good; 5=Excellent
Table 4.8 and 4.9 provide a list of frequencies from each of the eleven skills evaluated from this section. Table 4.8 indicates “organizational skills” were the highest ranked frequencies for the start of the peer mentor experience but most categorical values fall within the “average” or “good” categories. Table 4.9 shows most frequencies in “good” and “excellent” categories in terms of personal growth analysis today. Highest level of personal growth today was demonstrated through leadership and meaningful interactions with students. Frequencies from the start of the peer mentor experiences to today all increased in terms of frequencies for each skillset.
Table 4.8. Personal Growth Analyses at Start of Peer Mentor Experience

<table>
<thead>
<tr>
<th>Start of Peer Mentor Experience</th>
<th>f=1</th>
<th>f=2</th>
<th>f=3</th>
<th>f=4</th>
<th>f=5</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Organization Skills</td>
<td>1.4%</td>
<td>7.4%</td>
<td>20.8%</td>
<td>44.7%</td>
<td>25.3%</td>
<td>67</td>
</tr>
<tr>
<td>Teamwork</td>
<td>1.5%</td>
<td>1.5%</td>
<td>15.1%</td>
<td>60.6%</td>
<td>21.2%</td>
<td>66</td>
</tr>
<tr>
<td>Interpersonal Communication Skills</td>
<td>1.5%</td>
<td>9.0%</td>
<td>28.7%</td>
<td>42.4%</td>
<td>18.1%</td>
<td>66</td>
</tr>
<tr>
<td>Leadership</td>
<td>0.0%</td>
<td>4.5%</td>
<td>31.8%</td>
<td>48.4%</td>
<td>15.1%</td>
<td>66</td>
</tr>
<tr>
<td>Time Management Skills</td>
<td>0.0%</td>
<td>12.1%</td>
<td>18.1%</td>
<td>56.0%</td>
<td>13.6%</td>
<td>66</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>1.5%</td>
<td>13.6%</td>
<td>30.3%</td>
<td>40.9%</td>
<td>13.6%</td>
<td>66</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>0.0%</td>
<td>4.5%</td>
<td>24.2%</td>
<td>59.0%</td>
<td>12.1%</td>
<td>66</td>
</tr>
<tr>
<td>Meaningful interactions with faculty/staff</td>
<td>6.0%</td>
<td>15.1%</td>
<td>36.3%</td>
<td>31.8%</td>
<td>10.6%</td>
<td>66</td>
</tr>
<tr>
<td>Confidence Level</td>
<td>4.5%</td>
<td>22.7%</td>
<td>21.2%</td>
<td>43.9%</td>
<td>7.5%</td>
<td>66</td>
</tr>
<tr>
<td>Knowledge of on campus resources</td>
<td>3.0%</td>
<td>15.1%</td>
<td>46.9%</td>
<td>27.2%</td>
<td>7.5%</td>
<td>66</td>
</tr>
<tr>
<td>Meaningful interactions with students</td>
<td>1.5%</td>
<td>18.1%</td>
<td>42.4%</td>
<td>31.8%</td>
<td>6.0%</td>
<td>66</td>
</tr>
</tbody>
</table>

Likert-Scale: 1=Poor; 2= Fair; 3=Average; 4=Good; 5=Excellent

Table 4.9. Personal Growth Analyses after Peer Mentor Experience

<table>
<thead>
<tr>
<th>Today</th>
<th>f=1</th>
<th>f=2</th>
<th>f=3</th>
<th>f=4</th>
<th>f=5</th>
<th>(n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Leadership</td>
<td>0.0%</td>
<td>0.0%</td>
<td>6.0%</td>
<td>31.8%</td>
<td>62.1%</td>
<td>66</td>
</tr>
<tr>
<td>Meaningful interactions with students</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>36.3%</td>
<td>59.0%</td>
<td>66</td>
</tr>
<tr>
<td>Interpersonal Communication Skills</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>43.9%</td>
<td>51.5%</td>
<td>66</td>
</tr>
<tr>
<td>Teamwork</td>
<td>0.0%</td>
<td>1.5%</td>
<td>1.5%</td>
<td>48.4%</td>
<td>48.4%</td>
<td>66</td>
</tr>
<tr>
<td>Meaningful interactions with faculty/staff</td>
<td>0.0%</td>
<td>0.0%</td>
<td>10.6%</td>
<td>40.9%</td>
<td>48.4%</td>
<td>66</td>
</tr>
<tr>
<td>Knowledge of on campus resources</td>
<td>0.0%</td>
<td>0.0%</td>
<td>3.0%</td>
<td>51.5%</td>
<td>45.4%</td>
<td>66</td>
</tr>
<tr>
<td>Organization Skills</td>
<td>0.0%</td>
<td>0.0%</td>
<td>9.0%</td>
<td>48.4%</td>
<td>42.4%</td>
<td>66</td>
</tr>
<tr>
<td>Confidence Level</td>
<td>0.0%</td>
<td>0.0%</td>
<td>4.5%</td>
<td>54.4%</td>
<td>40.9%</td>
<td>66</td>
</tr>
<tr>
<td>Time Management Skills</td>
<td>0.0%</td>
<td>0.0%</td>
<td>9.0%</td>
<td>54.4%</td>
<td>36.3%</td>
<td>66</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>0.0%</td>
<td>0.0%</td>
<td>12.1%</td>
<td>51.1%</td>
<td>36.3%</td>
<td>66</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>0.0%</td>
<td>0.0%</td>
<td>10.6%</td>
<td>60.6%</td>
<td>28.7%</td>
<td>66</td>
</tr>
</tbody>
</table>

Likert-Scale: 1=Poor; 2= Fair; 3=Average; 4=Good; 5=Excellent
To adequately provide additional knowledge in addressing personal performance growth from the peer mentor experience were asked to rate their level of agreement to the impact of their participation on personal growth and performance while serving as a peer mentor. Mentors responses represented in Table 4.11 indicating the responses of \( n=61 \) respondents showed a positive impact on the personal growth from the peer mentor experience. Six respondents reported that their experience had no impact on personal growth and development and no one stated that it had a negative impact.

<table>
<thead>
<tr>
<th>Personal Development Value</th>
<th># of Indicated Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>61</td>
</tr>
<tr>
<td>No Impact</td>
<td>6</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
</tr>
</tbody>
</table>

\( (n=67) \)

Respondents were asked to elaborate on why they responded as they did. Three themes arose from the positive response categories. Themes included: (1) increase in interpersonal skills, (2) overall increase in confidence, and (3) opportunity to build connections.

Respondents \( (n=19) \) indicated that interpersonal skills positively impacted personal growth and development as a peer mentor. Interpersonal skills reported include an increase in communication skills, leadership skills, organizational skills, time management balance, and responsibility. A statement from survey responses to support themes of interpersonal skill development includes: “the peer mentor had an incredibly positive role in my personal performance. It was the first time I truly realized myself as a role model, and once I realized that, it made me want to push myself to even better performance. I have grown immensely
close with my fellow mentors and have learned how to work well with each of their individual personalities and styles. Being a peer mentor made me realize I have the power to completely dictate my journey at Iowa State, and it helped me to see how I need to plan my journey to maximize my potential and experiences.”

Respondents \((n=19)\) also indicated that the peer mentor experience had provided an increase in their overall confidence. The ability to feel comfortable talking in front of others, ability to step out of comfort zone, and self-confidence were all sub-sections of the overall theme of gain in confidence. Comments from such opened ended questions provided evidence in support of this theme including “I feel more confident and sure of myself because of the peer mentor experience. This growth is huge for me and has changed the way I view myself and my performance in my academics and social life.”

The last major theme uncovered from the survey data included building connections. Respondents \((n=11)\) stated that they were able to build connections with a variety of different groups. From student, fellow mentor, or staff connections, respondents felt that this relationship connection was able to impact their personal development. Statement from pulled survey data supporting and providing example of personal development include “Being a peer mentor has allowed me to positively connect with lots of students over the past two years. I really enjoy increasing the number of friendly faces that I have known on campus.”

The respondents who reported no impact and negative impact did not provide a follow-up written response explaining their reasoning.
**Objective Three: Determine Mentor Career Development and Growth from Experience as a Peer Mentor**

To address career growth from the peer mentor experience, respondents were asked about the impact of their development of career growth while being a peer mentor. Respondents were asked to indicate whether their career performance was negative, no impact, or positive from being a peer mentor (Table 4.11). Nearly all peer mentors \( n=60 \) indicated positive career development from the peer mentor experience. Seven mentors indicated no impacted and zero mentors indicated negative impact on career development.

<table>
<thead>
<tr>
<th>Career Development Value</th>
<th># of Indicated Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>60</td>
</tr>
<tr>
<td>No Impact</td>
<td>7</td>
</tr>
<tr>
<td>Negative</td>
<td>0</td>
</tr>
</tbody>
</table>

\( (n=67) \)

Mentors were asked to elaborate on their response related to career growth. Reoccurring themes from the respondents included: (1) gained communication skills related to career development; (2) confidence in current and future career endeavors; (3) leadership skills; and (4) networking connections.

The first theme identified by the researcher indicated a growth from mentors in terms of communication skills \( n=10 \) through career areas. Sub-categories of communication skills include presentation readiness, ability to facilitate conversation with companies/employers, and general advancement in communication ability. Statements provided by mentors to support communication skill advancement include: “I think that being a peer mentor is a
unique experience that provides a lot of conversation when speaking with potential employers. It goes a great job at displaying some my professional qualities such as time management, communication with various backgrounds, leadership, etc.”

Gain in confidence was an equally prevalent theme that was pulled by researchers in survey development in a career aspect. In terms of confidence gain, respondents \( n=10 \) suggested that the ability to be a peer mentor gained confidence in terms of leading a group, public speaking, and realize self-work. Statements of confidence from the survey supporting the theme of gain in confidence include: “By gaining more confidence to talk in front of groups, I have also become a better employee. I am able to communicate with others much better and I have gotten much better at presenting in front of groups.” Mentors also stated “This opportunity has helped me be a more positive and confident individual. It's not easy to take responsibility for a group of students and know what to say or do in every given scenario but it has made me a better learner for the career I will someday have. I am learning to go with the flow and think spontaneously with certainty.”

Leadership development was also an area where respondents thought they benefited. Respondents represented \( n=8 \) that leadership development and growth from being a peer mentor. Mentors stated that being a peer mentor increased their current leadership skills, allowed for leadership development in the workplace to develop, and allowed them to acknowledge that they were a student leader for younger peers. Statements from survey analysis to confirm this theme include: “showing that I was in a leadership role, more companies were eager to work with me, and I became a stronger employee myself because I had to manage my time even more this semester than I previously needed to. I challenged myself to handle 18 credits with higher-level classes as well as serving as a peer mentor, and
I made it through the semester successfully because I became more focused and found it easier to prioritize different activities at different times.”

Finally, mentors gained networking opportunities and building connections from a career standpoint from the peer mentor experience. Respondents who mentioned networking opportunities and connection building (n=8) presented the ability to gain different perspectives of connection building through employer and faculty/staff avenues that otherwise may not have occurred. Also, included is the ability to network with a variety of individuals that may benefit in future career endeavors. Statements from survey data to support this theme include: “I learned how to work with people of different backgrounds. I also learned to work with people of different work ethics, skills, and other personality traits. That is something I can take into my future career.”

Respondents who indicated no impact (n=7) provided statements in regard to understanding that communication was gained but in terms of different areas within their development not specifically through career growth. These areas included communication with others outside of career realm. There were no responses from the negative group as there was no mentors who selected this category.

**Objective Four: Determine Academic Growth and Development Impact from Experience as a Peer Mentor**

To address academic performance from the peer mentor experience, respondents were asked to rate their level of agreement related to the impact of their participation on their academic performance while being a peer mentoring. Mentors were asked to indicate whether their academic performance was negative, no impact, or positive from being a peer mentor (Table 4.12). A total of (n=35) respondents reported positive academic growth and
Table 4.12. Impact of Academic Growth and Development from Experience as a Peer Mentor

<table>
<thead>
<tr>
<th>Academic Development Value</th>
<th># of Indicated Respondents</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive</td>
<td>35</td>
</tr>
<tr>
<td>No Impact</td>
<td>31</td>
</tr>
<tr>
<td>Negative</td>
<td>1</td>
</tr>
</tbody>
</table>

(n=67)

development from the peer mentor experience. Respondents (n=31) indicated that there was no impact on their academic performance and one indication of a negative impact of academic growth and development.

Respondents were asked to further elaborate on their response related to academic performance. The researcher took the responses and formulated reoccurring themes: (1) network development and communication; (2) positive outlook and increase in academic qualities; and (3) overall motivation increase were all detected themes found by the researchers.

Respondents (n=16) described that through the peer mentoring experience they were able to gain a positive outlook on academics while gaining skills valuable to their academic student life. Qualities mentioned include an increase in time management awareness, overall academic responsibility, organizational skills, and interpersonal skills relating to academic success. Statements from survey data to support this theme include “I feel that this program has allowed me to focus on time management and my organizational skills which has in turn helped me maintain my grades. Also, I feel the boost of communication skills and leadership skills has helped in my confidence which also has assisted in maintaining my academic performance.”
Networking and connections made regarding academics were stated by respondents as having a positive impact on their academic performance. Peer mentors \((n=13)\) stated that through the peer mentor experience they were able to build and gain connections with networking opportunities through faculty, staff, fellow peer mentors, and students at the university. Survey data to support this theme states, “Meeting more of my peers and interacting with more faculty has definitely been a positive experience and helped me enjoy going to school more and participating in more clubs, events, and academics.”

Lastly, an increase in overall academic motivation was shown as a positive theme. Students \((n=8)\) indicated that through the peer mentor experience their increase in academics; including general schoolwork and sense of belonging as a role model to younger students was addressed. Direct quotations for survey data to support this theme include “I would say that the positive impact would come from me personally wanting to set a better example for my mentees. I work harder now to try and be a role model for them.”

The no impact category indicated two overall themes. Mentors indicated that coursework and grades stayed the same from the beginning to the end of the peer mentor experience \((n=7)\). Peer mentors also stated that they came into the peer mentor experience with previous motivation for school and saw no impact on their academics \((n=5)\). Statement from survey data to support this category include “Being a peer mentor has not negatively or positively impacted the grades I am receiving as a student here. The grades I have been receiving have remained the same since becoming a peer mentor.” The one negative respondent indicated their academic performance did not provide an explanation as to what their negative impact included so the researcher was unable to come to a negative theme for this objective.
Summary

The purpose of this study is to identify and understand the growth and development that peer mentors receive from being a mentor within the College of Agriculture and Life Sciences Department at Iowa State University. Objective one utilized a set of descriptive statistics as well as theme accumulation from survey data to understand our population and their background. Having a detailed understanding of the target population is critical as literature describes that learning community programs provide similarities between each group. Understanding the population being studied will better formulate the conclusions from objectives two, three and four. After organizing survey data from objective two, three, and four, findings indicate benefits to peer mentors in personal, academic, and career areas as a result of the peer mentor experience provided through learning community peer mentor experience at the College of Agriculture and Life Sciences at Iowa State University. Areas of growth that provided greatest amount of benefit to mentors were under the categories of personal and career development. While academic growth was addressed, half of the population response suggested that there was no impact of academic growth to their higher education process provided from the peer mentor experience.
CHAPTER 5. DISCUSSION, CONCLUSIONS, AND RECOMMENDATIONS

The purpose of this study was to explore the impact that the peer mentor experience had on the College of Agriculture and Life Science (CALS) peer mentors at Iowa State University (ISU), focusing on personal, career, and academic developmental growth. Four objectives guided this study:

1. Describe demographic traits of CALS Peer Mentors;
2. Identify how mentors personal growth is affected by their experience as a peer mentor;
3. Detect mentor career development and growth affected by experience as a peer mentor; and
4. Determine academic growth and development affected from experience as a peer mentor.

Objective One: Demographic Traits of CALS Peer Mentors

Discussion

To address the first objective a collective understanding through studying the demographics of the College of Agriculture and Life Science peer mentors at Iowa State University. The objective was developed from researchers understanding from literature that peer mentor experiences and its mentors vary, but have a common end goal. In order to adequately understand the growth and development of the peer mentor population for this study, it would be beneficial to understand overall demographics of the target population.

Out of the 76 validated responses \((n=63)\) 82.8% of the peer mentor population consisted of students at ISU coming directly from high school. Our highest mentor respondent population included the Animal Science/Dairy Science/Pre-Vet learning
community. Most mentors completed previous training before beginning the peer mentor role, indicating guided prior knowledge of peer mentor experience. Overall, mentors 55.2% \((n=42)\) felt the learning community programs core goal is to help incoming students transition into higher education, allowing mentors to see a lasting impact on their mentorship and program purpose.

**Conclusion**

Mentors in this study noted differences in background, prior training, academic year, and learning community representation. Learning communities encompass a multitude of areas including student involvement and target populations within higher education, but share common goals, including the encouragement and support for students (Kilpartick et al., 2003). Based upon supporting evidence within literature that all peer mentor groups differ but share commonalities, we were able to understand those similarities from learning communities peer mentors. Each learning community program in CALS is unique, but results indicate a common goal for learning community programs. Majority of mentors, representing a variety of CALS learning communities, \((n=42)\) stated the purpose for joining the peer mentor learning community program was to develop the students that they were mentoring, through all aspects of higher education.

**Recommendations**

Every peer mentor is unique, having a different background and understanding of the learning community experience. Similarity, each learning community has its own perspective in terms of implementation, growth, and development of the students entering into higher education systems, shared end goals. Learning community programs at different universities may vary and in order to adequately understand the peer mentor learning community
program being accessed, it is critical to have a foundational understanding of your target population. By being able to fully understand the peer mentors, their background, and knowledge within the learning community program will better help formulate measures of growth and development amongst varying mentor groups and understand the overall objectives for learning community programs. Mentors will be able to further reflect on their peer mentor experience and acknowledge the benefits they encouraged from the learning community program. By allowing mentors to fully establish reflections on their progress will provide an understanding of futuristic growth measures.

**Objective Two: Personal Growth from Peer Mentor Experience**

**Discussion**

After developing an understanding of the peer mentor target population, objective two was formulated from literature and focus group analysis highlighting the impacts of personal growth. Respondents were given 11 statements connected to personal growth and overall mentors on a scale of strongly disagree (1) to strongly agree (5). Mentors agree strongly agree to most statements of personal growth from the peer mentor experience. Mentors greatest indication of personal growth involved: “*my peer group provides useful information for my mentees*” with frequency of 76.1% and “*through the peer mentor program, I have increased my interaction with people that have a different background than I,*” with frequency of 56.9%.

Mentors then indicated prior personal peer mentor skillset to skillset levels the time they completed the survey instrument. It is important to note that peer mentors may have grown through other areas of their higher education learning process, as it was not addressed that this growth was solely from the peer mentor experience. Table 5.1 illustrates the range
Table 5.1. Range in Skill Development before and after Peer Mentor Experience

<table>
<thead>
<tr>
<th>Skill Option</th>
<th>Range in Development</th>
</tr>
</thead>
<tbody>
<tr>
<td>Time Management Skills</td>
<td>1.33</td>
</tr>
<tr>
<td>Interpersonal Communication Skills</td>
<td>1.21</td>
</tr>
<tr>
<td>Teamwork</td>
<td>1.13</td>
</tr>
<tr>
<td>Leadership</td>
<td>1.09</td>
</tr>
<tr>
<td>Confidence Level</td>
<td>0.80</td>
</tr>
<tr>
<td>Organizational Skills</td>
<td>0.79</td>
</tr>
<tr>
<td>Meaningful interactions with students</td>
<td>0.72</td>
</tr>
<tr>
<td>Knowledge of on-campus resources</td>
<td>0.55</td>
</tr>
<tr>
<td>Presentation Skills</td>
<td>0.45</td>
</tr>
<tr>
<td>Critical Thinking</td>
<td>0.43</td>
</tr>
<tr>
<td>Meaningful interactions with faculty/staff</td>
<td>0.38</td>
</tr>
</tbody>
</table>

Likert-Scale: 1=Poor; 2= Fair; 3=Average; 4=Good; 5=Excellent

from each skill at the beginning of the peer mentor experience to today. Time management skills ($n=1.33$) as well as interpersonal communication skills ($n=1.21$) provided the most growth from the peer mentor experience. Meaningful interactions with faculty/staff provided the lowest range in development ($n=0.38$).

Researchers gave student mentors the ability to rate their level of impact from overall personal growth factors and provide comments over their impact. A total of 61 peer mentors (91%) indicated that the peer mentor experience had a positive experience on their personal growth. Three overarching themes emerged from the mentors’ responses: (1) increase in interpersonal skills; (2) overall gain in confidence; and (3) opportunity to build connections.
Conclusion

From objective two, we can conclude that there is significant evidence that positive impact when it comes to personal growth and development. Peer mentoring focuses on a more experienced student helping a less experienced student improving overall academic performance, encourages mentors’ personal growth, providing advice, support, and knowledge to the mentee while also introducing personal developmental measures (Colvin & Ashman, 2010). Interpersonal skills, boost in overall confidence, and connection building were highlighted by mentors as positive growth factors from survey research and support literature regarding personal development. Learning communities encourage incorporation of active and collaborative learning activities that promote involvement in academic and social settings, extending beyond the classroom that further allow students to develop personally through this process (Zaho & Kuh, 2004). The findings of this study supplied from findings of Colvin and Ashman (2010), and Zaho and Kuh (2004) support the overall findings from this study.

Peer mentors entering into learning communities should expect to grow personally in areas of interpersonal communication skills, confidence, and networking connections from this experience. While it is important to note that growth does not solely come from this peer mentor experience, students did attribute their role as a peer mentor as significant means of positive personal development. If students are looking to improve their personal skills through connection and knowledge, the peer mentor experience would be a resource to help them do so.
Recommendations

Peer mentors within CALS at Iowa State University have displayed a multitude of positive growth and development factors from their learning community program in terms of personal development. It will be beneficial for learning community coordinators and staff to acknowledge personal growth as a factor when searching for future mentors within their learning community programs. By allowing students who are searching for this type of personal growth and development through higher education, the learning community peer mentor experience an option for personal growth given seen benefits from this study.

Objective Three: Career Growth from Peer Mentor Experience

Discussion

Career growth and development for purpose of this research study was found to be positive in terms of peer mentor growth and development. A 3-point scale including “positive, no impact, and negative” options were provided in terms of career development valued survey analysis. A total of 60 peer mentors (89%) represented that the peer mentor experience provided positive career growth and development. Studies have shown benefits from mentorship and overall career advancement, in terms of success through job satisfaction and advancement, influenced by many variables and mentorship development may only constitute only minor contributing factors to these variables (McKeen et al., 1994). In supporting of literature, mentors through the survey instrument described four growth factors that involved career development: (1) gained communication skills in regards to career development; (2) confidence in current and future career endeavors; (3) leadership skills; and (4) networking connections.
Conclusion

One can conclude from observations and analysis that peer mentors at Iowa State University within CALS gain positive growth aspects in regards to career development from being a peer mentor. Individual mentoring experiences and expectations are show to influence participants’ career aspirations (Chang et al., 2016). In supporting literature, peer mentoring allowed students to gain career development through gained communication skills related to career aspects, confidence in current and future career endeavors, leadership skills, and networking connections. It should be noted that the value of career development from being a peer mentor is scarce in literature more research is needed, specifically; after the completion higher education mentors will be entering into career settings. Therefore, it is understandable that growth and development of this area would occur, in forward thinking to next steps. This study provides evidence that career aspirations are show to have positive impacts from being a peer mentor.

Recommendations

The topic of career development from peer mentoring in higher education is not abundantly reported in the literature. Therefore, additional research would be recommended to examine how the impacts of career growth affect peer mentors in learning communities. In order to develop a skillset it will be critical to have more detailed understanding of this concept of development as a peer mentor. In future studies, research can focus on the relation of peer mentor experience to career growth on aspects of networking connections, leadership styles, and communication impacts that are directly related to career growth through the peer mentor experience.
Objective Four: Academic Growth from Peer Mentor Experience

Discussion

The researchers’ final objective studied the component of academic growth from the peer mentor experience. Having learning communities prioritize knowledge growth, participants can actively construct and understand knowledge through peer learning process, which in turn results in greater academic understanding (Zhao & Kuh, 2004). With the speculation of academic growth from peer mentor transmission, our results do not fully support the relationship of academic growth from being a peer mentor. One-half of our mentors (n=35) stated that the peer mentor program impacted or benefited academic growth. A total of 31 (46%) peer mentors indicated that the peer mentor experience had no impact on their academic performance while one indicated a negative impact.

Mentors who indicated a positive impact of academic development indicated growth in themes of: (1) network development and communication; (2) positive outlook and increase in academic qualities; and (3) overall motivation increase. The “no impact” category also stated themes that would be beneficial to knowledge growth and development for future research. Mentors indicated two overall themes of no impact: (1) coursework and grades stayed the same from the beginning to the end of the peer mentor experience; and (2) peer mentor experience with previous motivation for school and saw that there was no impact on their academic within a previous incentive to do well in school.

Conclusion

Peer mentors are role models who often have valuable wisdom, on academic and non-academic understanding which they gained from experience through higher education, in hopes to provide assistance to fellow mentees (Rieske & Benjamin, 2015). Generally, peer
mentors are hired by learning community faculty for their outstanding academic performance and commitment to bettering their higher education experience. With a preexisting notion to academic success, it is logical that mentors high a drive to do well in academics, therefore the amount of academic knowledge being learned through mentoring younger students, in lower level courses would not bring about academic success.

For mentors who have expressed a positive impact, the understanding is more focused on growth factors that are used in academics such as time management skills, an increased motivation to do well in school, pressure to be positive role models and networking opportunities that would further academic success from faculty and staff. Results conclude that peer mentors may gain academic assistance from the peer mentor experience. However, results from this study revealed that mentors indicating no impact on academic success are also significantly represented.

**Recommendations**

With results provided from the survey, it would be beneficial to conduct deeper extensive research into the academic advantages from being a peer mentor within CALS at ISU. However, with reporting academic impacts for a mentor, the positive impacts that were supported from this study’s findings support the academic growth in regard to literature. With understanding from literature that every learning community and peer mentor experience differ, these preexisting differences are likely to occur.

**Contribution of ISU’s College of Agriculture and Life Science Learning Community**

This study adds to the knowledge base of peer mentor benefits to learning community programs. Prior to this study, the College and Agriculture and Life Sciences at Iowa State University had a minimal understanding of academic, personal, and career benefits to peer
mentors. In order to develop all students within learning community programs it is important to understand the benefits related to the peer mentor group. Understanding the student development theory which refers to the knowledge and understanding to explain the developmental process of how student learn, grown, and develop (Jones & Stewart, 1994) provides reasoning and importance for this knowledge. Although learning communities are centered on mentee development, addressing the needs of all students and their benefits is critical.

Studies have been conducted regarding benefits that mentees in this peer mentor relationship incur but the knowledge base of mentorship benefits to the student mentors themselves was limited. From this study, students have reported definite benefits for peer mentors on personal, academic, and career standpoints. While the mentorship qualities may have come in different realms of personal, career, or academic settings, the overall knowledge of growth and development was prevalent.

With this information, the learning community coordinators at Iowa State University will be able to gauge the success of student mentors and learning community programs. To ensure peer mentor learning communities benefits all involved in the program, ensuring a win-win relationship for mentors and mentees. Learning community goal setting around the three objectives addressed in this study will be beneficial for developmental growth specifically for the peer mentor experience. As learning communities progress and continue to search for new mentors within their program, it may be beneficial to understand growth factors that come with being a peer mentor. Community coordinators may use results in developing programming in mentor selection process, acknowledging that peer mentors gain skills and confidence in areas of personal, academic, and career areas. With knowledge that
every learning community contains differences with shared understanding of overarching goals, this study will provide a foundational understanding for growth and development for all aspects of learning communities, specifically peer mentors.

**Contribution to Literature**

Scholars describe a learning community as “an intentionally developed community that exists to promote and maximize the individual and shared learning of its members. There is continuous ongoing interaction and collaboration among community members as they strive for specified common learning goals” (Lenning, Hill, Saunders, Solan, & Stokes, 2013, p. 14). Results from this study revealed that a majority of mentors \((n=42)\) indicated that the main reason for becoming a peer mentor was to benefit incoming student development. Regardless of learning community, the overall goal of this program and its mentors focus for becoming a peer mentor remained constant with that of the literature. The growth of learning communities is linked to broader reforms in undergraduate education that emerged as a result of concerns about the quality of undergraduate education linked through detailed reports from numerous colleges and research facilities (Jessup-Anger, 2015).

Theorists have provided indication that the zone of proximal development demonstrates what a learner can do without assistance and what he/she can achieve with guidance from a skilled like partner (McLeod, 2009). Learning community coordinators allow the opportunity for peer mentors to develop personal, professional, and academic skillsets that ensure students are in the correct zone to ensure in the zone of proximal development is effective. Skill development is also related to students who want to become peer mentors. Learning community coordinators may use the foundation of the zone of proximal development as a standard in terms of developing skills in peer mentors; ensuring
mentors are in the right zone to adequately assist students. When a student demonstrates the zone of proximal development for a particular task, providing the appropriate assistance will give the student encouragement and willingness to achieve said task (O’Hara, 2007).

Nevertheless, some students may be too advanced in their learning skillsets and do not see assistance in the form of a peer mentor as valuable. As seen from our results, mentors are generally highly progressive in terms of academics. Learning community peer mentors are highly encouraged to have a large knowledge base to effectively assist peer students. However, as provided in the study’s results, this hinders some peer mentors’ academic advancement. Learning communities provide peer mentors providing assistance with tasks to enhance students throughout higher education resulting in a greater knowledge base for students who are being assisted. By understanding the process of development through the zone of proximal development, we can conclude that the transfer of learning the peer mentor provides is involved in the section of the zone of proximal development for its students. In addition to literature, this study provides an understanding an addition to the growth and development gained by peer mentors in regards to career development. Within this new piece of information uncovered it is recommended that this aspect of development be introduced to other learning communities and their peer mentors to fully understand the impact to all peer mentors.

Through the theories of Piaget and Vygostky, an understanding and foundational development of the peer mentor relationship was developed. This foundation further formulates the understanding for current learning communities as they implement peer relations, understanding that this type of relationship develops undereducated students by the assistance of highly educated peer mentors (Hogan & Tudge, 1999). The relationship not
only develops the undereducated population but helps to encourage the educated mentors and their experiences throughout higher education (Hogan & Tudge, 1999). Studies have shown that learning-by-teaching has been effective when students spend time teaching what they’ve learned to better understand and maintain a solid foundation of learned material. Peer mentoring provided the ability for all students to develop throughout education (Hogan & Tudge, 1999). These results are supportive of theories of Piaget and Vygostky, in understanding that the peer mentors are benefiting from the peer mentor relationship in a multitude of areas including personal, professional, and academic areas.

**Importance of Findings**

Learning communities have continually been a growing movement targeted at higher education development for decades, and research continues to show successes from students, mentors, and faculty in regards to positive skill development (Love, 2012). We know that a majority of students entering into higher education systems are faced with new challenges, whether academic or non-academic. Learning communities that involve peer mentors provide positive outcomes as a result of enhanced engagement with peers and faculty and the integration of ideas and experiences through higher education learning (Love, 2012). With an extensive of knowledge base of mentee benefit from the peer mentor relationship within learning communities, we now have a foundational knowledge base of mentors’ impact and develop as students from this experience. While the main focus of learning communities are on mentee development, by also focusing on mentor development, all students will benefit from this program. For the development and progress of learning communities, it is important to have an understanding of the growth of all participants.
A foundational understanding of learning community development, for both mentors and mentees will give faculty and staff the ability to develop progress for all students involved. While it is important that the growth of the mentee is addressed, having an understanding of mentor growth from this program will allow for increased development and availability for students in personal, academic, and career areas.

**Further Research**

After completing this study, the researchers are able to further research in regard to the development and growth of peer mentors from learning community programs. With an understanding that growth occurs in areas of academic, career, and personal areas, it would be beneficial to study the outcomes aligning peer mentor learning communities. By doing so, researchers will gain a better understanding what the benefits are similar or different, based upon the type of learning community. We are aware that there are several factors that play a role in the development of learning community programs such as student need, growth and development, which utilize peer mentors to aid students through higher learning. In further research, researchers should propose questions in regard to other developmental growth aspects that are impactful to peer mentors such as subsections of communication, leadership, and development skills, while continuing the foundational knowledge base in personal, career, and academic areas. Other factors that may come into play include intrinsic or extrinsic factors that influence peer mentor experience and basic for joining such group which may impact overall skillset growth and development. Also, in regards to hiring new and returning peer mentors, having an understanding of what mentors will gain from their experience will be beneficial to new hired and learning community coordinators. Increased studies on the specific growth of mentors will deepen knowledge understanding to provide
appropriate growth and development areas to peer mentor students through higher education learning communities.
REFERENCES


Iowa State University: Learning Communities (n.d.-c) Retrieved from https://www.lc.iastate.edu/communities/agricultural-business


APPENDIX A. INSTITUTIONAL REVIEW BOARD (IRB) APPROVAL

IOWA STATE UNIVERSITY

Date: 11/28/2018

To: Sarah Orban Jennifer Bundy

From: Office for Responsible Research

Title: The effects of peer mentoring on the peer mentor.

IRB ID: 18-481

Submission Type: Initial Submission Exemption Date: 11/28/2018

The project referenced above has been declared exempt from the requirements of the human subject protections regulations as described in 45 CFR 46.101(b) because it meets the following federal requirements for exemption:

1: Research conducted in an established or commonly accepted educational setting; involving normal educational practices, such as (i) Research on regular and special education instructional strategies, or (ii) Research on the effectiveness or the comparison among instructional techniques, curricula, or classroom management methods.

2: Research involving use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures, or observations of public behavior, unless (i) Information obtained is recorded in such a manner that human subjects can be identified, and (ii) Any disclosure of the human subjects’ responses outside the research could reasonably place the subject at risk of criminal or civil liability or be damaging to the subjects’ financial standing, employability, or reputation.

The determination of exemption means that:

- You do not need to submit an application for annual continuing review.
- You must carry out the research as described in the IRB application. Review by IRB staff is required prior to implementing modifications that may change the exempt status of the research. In general, review is required for any modifications to the research procedures (e.g., method of data collection, nature or scope of information to be collected, changes in confidentiality measures, etc.), modifications that result in the inclusion of participants from vulnerable populations, and/or any change that may increase the risk or discomfort to participants. The purpose of review is to determine if the project still meets the federal criteria for exemption.

In addition, changes to key personnel must receive prior approval.

Detailed information about requirements for submission of modifications can be found on our website. For modifications that require prior approval, an amendment to the most recent IRB application

IRB 03/2018
APPENDIX B. FOCUS GROUP

B-1. Consent Document

Title of Study: The effects of peer mentoring on undergraduate peer mentors

Investigators: Jennifer M. Bundy, B.S, M.S, Ph.D.  
Michael S. Retallick, B.S., M.A.B., Ph.D.  
Sarah Orban, Iowa State University Graduate Student

This is a research study. Please take your time in deciding if you would like to participate. Please feel free to ask questions at any time.

INTRODUCTION

The purposes of this focus group is to 1) determine if an undergraduate peer mentor benefits form being a peer mentor 2) identify common professional growth themes of how a peer mentor is affected by their experiences as a student group leader 3) identify common personal growth themes of how the peer mentor is affected by their experiences as a student group leader

DESCRIPTION OF PROCEDURES

If you agree to participate in this study, your participation will last for no more than one hour. During the study you may expect the following study procedures to be followed. You will be asked to participate in a discussion with a group of no more than eight peer mentors about your Learning Community program and its related needs and impacts to your higher education experience. The entire process will be facilitated by the researchers, Sarah Orban and masters student, Jamie Pudenz.

The data for this project will be collected using the responses to your completed audio tapes of the discussion and field notes taken during the discussion. When participating in the group discussion, you may skip any question that you do not wish to answer or that makes you feel uncomfortable. The audio recording will be transcribed and used to analyze the data. You may be asked to review the transcripts to ensure that your comments were accurately transcribed and reflect what you intended to say.

RISKS

There are no foreseeable risks while participating in this study. However, the researchers do wish to obtain the most candid and honest responses from you. Therefore, all comments and responses will remain confidential. The transcripts and field notes will be coded and your name will be removed to ensure anonymity.

BENEFITS

If you decide to participate in this study there will be no direct benefit to you. The information gained in this study will benefit the learning community organization at Iowa State University and further provide program coordinators areas of growth and development for future mentoring functions at Iowa State University. The use of these results and the associated improvements may provide more learning opportunities for you as a students and and improve the learning that occurs via the learning
community in which you are involved in. Such improvements will ultimately lead to the development of learning communities, specifically the peer mentor piece.

COSTS AND COMPENSATION

You will not have any costs from participating in this study. You will not be compensated for participating in this study.

PARTICIPANT RIGHTS

Your participation in this study is completely voluntary and you may refuse to participate or leave the study at any time. If you decide to not participate in the study or leave the study early, it will not result in any penalty or loss of benefits to which you are otherwise entitled.

CONFIDENTIALITY

Records identifying participants will be kept confidential to the extent permitted by applicable laws and regulations and will not be made publicly available. However, federal government regulatory agencies and the Institutional Review Board (a committee that reviews and approves human subject research studies) may inspect and/or copy your records for quality assurance and data analysis. These records may contain private information.

To ensure confidentiality to the extent permitted by law, the following measures will be taken. Your name will not be attached to any of the transcripts or data from the questionnaire. A unique code will be used so that you cannot be associated with your responses. The hard-copy data, including audio tapes and transcripts, will be stored in a locked office and electronic data will be stored within a file on a password protected, secure campus network. Only the two researchers associated with the project will have access to the data and transcripts. The audio tapes will be destroyed once the research project has been completed and no later than 12/31/19. If the results are published, your identity will remain confidential.

QUESTIONS OR PROBLEMS

You are encouraged to ask questions at any time during this study.

• For further information about the study contact Sarah Orban email (seorban@iastate.edu) or Dr. Jennifer Bundy by email (jmbundy@iastate.edu).

• If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator at (515) 294-4566.

**************************************************************************
PARTICIPANT SIGNATURE

Your signature indicates that you voluntarily agree to participate in this study, that the study has been explained to you, that you have been given the time to read the document and that your questions have been satisfactorily answered. You will receive a copy of the written informed consent prior to your participation in the study.

Participant’s Name (printed)________________________________________

(Participant’s Signature)________________________________________(Date)____________

INVESTIGATOR STATEMENT

I certify that the participant has been given adequate time to read and learn about the study and all of their questions have been answered. It is my opinion that the participant understands the purpose, risks, benefits and the procedures that will be followed in this study and has voluntarily agreed to participate.

(Signature of Person Obtaining___________________________(Date)____________
Informed Consent)
B-2. Script

Beginning the focus group discussion: The purpose of this script is to welcome the participants and provide an overview of the topic, provide the ground rules, and start with the first questions.

Sarah Orban:

Good morning/afternoon and welcome. I would like to start off by taking this time to thank you for joining this discussion about the Peer Mentor Program. My name is Sarah Orban and I am a graduate student in the department of Agricultural Education and Studies at Iowa State University. Assisting me today is Jamie Pudenz, also a graduate student in the department of Agricultural Education and Studies at Iowa State University. Our goal for today’s discussion is to learn more about your growth as a peer mentor, looking specifically at personal and professional growth qualities.

You were invited to this focus group because we would like to have the opportunity to hear from those who have first-hand experienced the peer mentor program. You will be able to share with us how the peer mentor program has impacted you and discuss any information you feel relevant to this discussion.

There are no right or wrong answers. We expect that you will have differing points of view so please feel free to share your point of view, even if that may differ from what others have to say.

I would also like to make it aware to you that we will be tape recording this session. We do not want to miss any of your comments or concerns. No names will be included in any of this research. Your comments are completely confidential. If for any time you feel uncomfortable and you would like to stop participating in this discussion please feel free to do so. Keep in mind that we are interested in both positive and negative comments. We hope that you will be able to reflect on your experiences as an Animal Science Peer Mentor through this discussion.

In order to help conversation flow please fully let the responder finish before jumping into others comments. If you want to follow up on something that someone has said, such as agree, disagree, or give an example, please feel free to do so. Feel free to have a conversation with one another about any of the questions I am asking. I am here to ask questions, listen, and make sure that everyone has a chance to share their thoughts. We are interested in hearing from each of you so make sure everyone is getting a chance to share their thoughts.

Before starting our questions I would like to briefly define personal growth and professional growth to get a better idea of the questions that are going to be addressed. Personal growth is a term that refers to various techniques for improving one’s habits, behavior, actions, and reactions. For example, learning to overcome procrastination, learning to be more polite and considerate, and being more responsible. Professional growth can be defined as learning to earn or maintain professional credentials such as improve coursework, improving time management skills, improving job and or school performance.

Our first set of questions are going to be dealing with your overall thoughts of the peer mentor program........
Conclusion:

(Final Question)…..

Is there anything else that needs to be said regarding personal and professional growth?

That concludes your discussion today about the peer mentor program. Thank you for volunteering your time, thoughts, and experiences. Please remember that your comments will be kept confidential and no names will be used in this research.

Again, thank you for participating in this discussion and enjoy the rest of your day!
B-3. Peer Mentor Questions

Objectives about Overall Thoughts In Program:
1. Why did you become a peer mentor?
   a. Did your peer mentor or peer mentor group affect your decision to join the program? Why?
2. What interactions with other peer mentors did you have after the training outside of training sessions?
   a. Describe your comfort level while interacting with other peer mentors after this training?

Objectives about Professional Growth
1. What did you expect you would gain from professional standpoint from this program?
2. How have your experiences as a peer mentor impacted your college career?
   a. Time-management, ability to work under pressure, decision making, self-motivation, conflict resolution

Objectives about Personal Growth
1. What did you expect you would gain from a personal standpoint from this program?
   a. For example, a change in personal skills such as confidence, responsibility, communication and/or professional skills such as presentation skills, time-management, responsibility ect.
2. How have your experiences in this program impacted your personal growth?
3. Describe your comfort level with facilitation of your group at the start of your mentee meetings (first semester as a peer mentor)?
   a. Describe your comfort level with facilitation of your group at the conclusion of your first semester as a peer mentor

Extra Questions
1. How did the peer mentor training facilitate interactions with other mentors?
   a. How did those interactions influence your mentoring approach?
2. If you went through a pre-peer mentor training:
   a. What did you find most beneficial?
   b. What did feel you needed more instruction on?

Ending Questions
1. Being you have completed the peer mentor program at least once, how would you approach group leadership if you were to serve as a peer mentor again?
2. In conclusion of this program, what aspects did you find valuable? Did you think this program was overall valuable to your college career? Why?
APPENDIX C. COLLEGE OF AGRICULTURE AND LIFE SCIENCES

(CALS) PEER MENTOR SURVEY

C-1. SURVEY

Thank you in advance for your time, consideration, and responses in this Peer Mentor Development Survey.

This survey will help in collecting information about the peer mentor experience at Iowa State University. Specifically focusing on time spent as a peer mentor, and any personal development, professional development, and other aspects you feel are crucial to your experience. The data collected through this survey will help provide information and learned data to future peer mentors. This study has received approval from the Institutional Review Board at Iowa State University (IRB 14-481).

The purpose and objectives of this study are as follows:

Purpose: Explore personal, career, and academic developmental growth, specifically focused on the mentorship experience of the peer mentors within the College of Agriculture and Life Sciences.

Objectives:
1. Determine if an undergraduate peer mentor benefits from being a peer mentor
2. Identify common personal growth themes of how the mentor is affected by their experience as a peer mentor
3. Identify common career growth themes of how the mentor is affected by their experience as a peer mentor
4. Identify common academic growth themes of how the mentor is affected by their experience as a peer mentor

Your participation in this survey is solely voluntary. If you agree to participate, you will complete the survey that follows this page. The survey will take you approximately 14 minutes to complete. There are no foreseeable risks to you as a participant in this study. Your responses will be kept confidential and stored on password-protected computers accessible only to the researcher at Iowa State University and key personnel for the project. The researchers will make every effort to keep your responses confidential. In addition to your survey responses, your institution will provide data relevant to this study, including your cumulative GPA, individual demographics, etc. All individually identifiable data (e.g. name, email, student ID) will be removed from the de-identified research data set.

Records identifying participants will be kept confidential to the extent allowed by applicable law and regulations and will not be publicly available. However, federal government regulatory agencies, audition department of Iowa State University, and the ISU Institutional Review Board (a committee that reviews and approves research studies with human subjects) may inspect and/or copy your records for quality assurance and analysis. These records may contain private information.

You are not required to take this survey if you do not wish to do so. If you agree to take this survey, but later change your mind, you may exit the survey at any time. You may also skip any question you do not wish to answer. There are no penalties or consequences of any kind if you decide that you do not want to participate. If you have any questions about the rights of research subjects or research-related injury, please contact the IRB Administrator at Iowa State University at 515-294-4566 or by email at IRB@iastate.edu, or by mail at Director, Office of Responsible Research, 2420 Lincoln Way, Suite 202, Ames, IA 50014. If you have any questions about this particular study, please contact the PI, Jennifer Bundy (jmbundy@iastate.edu) or Sarah Orban (seorban@iastate.edu).
Thank you very much for your time, it is greatly appreciated.

Q1 What is your Iowa State Student Net-ID? (start of your student email)

--------------------------

Page Break

Q2 What was your admission type?

☐ Direct from high school (includes college credits taken while in high school) (1)

☐ Transfer Student (2)

Page Break

Q3 In which year(s) at Iowa State have you served as a peer mentor? (Check all that apply)

☐ First Year (1)

☐ Second Year (2)

☐ Third Year (3)

☐ Fourth Year (4)

☐ Fifth Year (6)
Q4 Which Learning Community are you a peer mentor for? (click all that apply)

- Agriculture Business (5)
- Agriculture Community Encourages Success (ACES) (24)
- Agriculture Education and Studies (AGEDS) (8)
- Agronomy (9)
- Animal Science/Dairy Science/Pre-Vet (10)
- Biochemistry & Biophysics (B&B) (17)
- Biology Education Success Teams (BEST) (18)
- Food Science and Human Nutrition (FSHN) (11)
- Fostering Opportunity and Collaboration through Unity and Scholarship (FOCUS) (19)
- Genetics (20)
- Global Resource Systems (GLOBE) (12)
- Horticulture (HORT) (13)
- Microbiology (MICRO) (14)
- Natural Resource Ecology and Management (NREM) (15)
- Science of Environment and Sustainable Systems (21)
- Technology (16)
- Other (23)
Q5 Which training sessions did you attend in regards to your respected learning community? (Check all that apply)

☐ University-Wide (1)

☐ College-Specific (2)

☐ Other (5)

☐ All of the above (6)

Q6 Please explain any interaction(s) you had with learning community peer mentors; whether that be with your own peer group or in another CALS mentoring group: (planning coordination, training session collaboration, etc.)

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Q7 What prompted you to become a Peer Mentor at Iowa State University? Please briefly describe 2-3 reasons.

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Page Break
Q8 How many hours per-week do you usually spend on the following activities?

Informal= setting up group meetings, collaborating with other peer mentors, meeting with mentees outside of group sessions, etc.
Formal= meetings with students, one-on-one meetings, etc.

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<th>Hours</th>
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<td>2</td>
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<tr>
<td>4</td>
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<tr>
<td>6</td>
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<td>8</td>
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<tr>
<td>16</td>
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<tr>
<td>18</td>
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<tr>
<td>20</td>
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</tbody>
</table>

| Peer Mentoring (Informal) () | | |
| Peer Mentoring (Formal) () | | |
| Participating in other leadership roles on campus outside of peer mentor role () | | |

Q9 Please rate your level of agreement with each statement below in regards to the Mentoring program:
<table>
<thead>
<tr>
<th><strong>My peer group provides useful information for my mentees (1)</strong></th>
<th><strong>Strongly Disagree (1)</strong></th>
<th><strong>Disagree (2)</strong></th>
<th><strong>Neither agree nor disagree (3)</strong></th>
<th><strong>Agree (4)</strong></th>
<th><strong>Strongly Agree (5)</strong></th>
<th><strong>N/A (6)</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>I have facilitated interactions with other peer mentors (2)</strong></td>
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<td><strong>I have regular interactions with other peer mentors (3)</strong></td>
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<td><strong>Through the peer mentor program, I have increased my interactions with Iowa State faculty (4)</strong></td>
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<tr>
<td><strong>Through the peer mentor program, I have increased my interactions with my peers (5)</strong></td>
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<tr>
<td><strong>Through the peer mentor program, I have increased my interaction with people that have a different background than I (6)</strong></td>
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<tr>
<td><strong>I have gained an understanding of people with backgrounds that are different than mine (7)</strong></td>
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<td><strong>My participation in the peer mentor program has impacted my academic performance (8)</strong></td>
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<tr>
<td><strong>My participation in the peer mentor program has impacted my personal life at Iowa State (9)</strong></td>
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</tbody>
</table>
Q10 Next, we would like to gauge your personal development from the beginning of the peer mentor program to your current level:

<table>
<thead>
<tr>
<th></th>
<th>Start Peer Mentor Program</th>
<th>Today</th>
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</thead>
<tbody>
<tr>
<td></td>
<td>Poor (1) Fair (2) Average (3) Good (4) Excellent (5) Poor (1) Fair (2) Average (3) Good (4) Excellent (5)</td>
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</tr>
<tr>
<td>Confidence level (1)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Time Management Skills (2)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Organizational Skills (3)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Interpersonal Communication Skills (4)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Presentation Skills (5)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Teamwork (8)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Leadership (9)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Critical Thinking (10)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<td>Knowledge of on campus resources (11)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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<tr>
<td>Meaningful interactions with students (6)</td>
<td>C  C  O  O  O  C  C  O  O</td>
<td></td>
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<tr>
<td>Meaningful interactions with faculty/staff (12)</td>
<td>C  C  O  O  O  C  C  O  O</td>
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</table>

Page Break
Q11 Did your participation within the peer mentor program have a negative, no impact, or positive impact on your academic performance while being a student at Iowa State University?

- Negative (4)
- No Impact (7)
- Positive (8)

Q12 Please describe your answer to the impact on your academic performance:

________________________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

________________________________________________________________

Page Break
Q13 Did your participation within the peer mentor program have a negative, no impact, or positive impact on your career performance or growth while being a student at Iowa State University?

- Negative (1)
- No Impact (2)
- Positive (3)

Q14 Please describe your answer to the impact on your career performance or growth:

________________________________________________________________
________________________________________________________________
________________________________________________________________
________________________________________________________________
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________________________________________________________________

Page Break
Q15 Did your participation within the peer mentor program have a negative, no impact, or positive impact on your personal performance or growth while being a student at Iowa State University?

- Negative (1)
- No Impact (2)
- Positive (4)

Q16 Please describe your answer to the impact on your personal performance or growth:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Page Break
Q17 Please describe if there is anything else you would like to share about your experience as a peer mentor.

________________________________________________________________
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Q18 What suggestions do you have to improve the peer mentor experience? Examples may include more training, better equipped information, increased interaction with other peer mentors. Please provide specific examples of training and information that you would find useful if you feel more needs to be added.

________________________________________________________________
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Finish survey by clicking arrow at the bottom right hand corner of your screen.
C-2. Survey Distribution and Collection

C-2.1. First Email

Good Morning CALS Peer Mentors!

I hope you all had a wonderful Thanksgiving Break!

I am writing to ask for your help in improving our understanding of the peer mentor experience at Iowa State University. The most effective and accurate way we can gather this information is from you, the mentors! Below is a provided survey and our goal is to gain a better understanding of how the peer mentor process affects different aspects of students' lives while at Iowa State. We are especially interested in learning how the process has affected your personal, career, and academic performance through the tools provided within your specific peer mentor program.

The questionnaire is short, with a total of 18 questions, it should take you about fifteen minutes to complete. To begin the survey, simply click this link:

Follow this link to the Survey:
${l://SurveyLink?d=Take the Survey}

Follow the link to opt out of future emails:
${l://OptOutLink?d=Click here to unsubscribe}

This survey is confidential. Your participation is voluntary, and if you have any questions that you prefer not to answer please skip it and go on to the next. Should you have any questions or comments please contact, Sarah Orban, graduate student at Iowa State University in the Department of Agriculture Education and Studies at seo@iastate.edu.

We greatly appreciate your help with this survey and look forward to hearing your responses!

Best,
Sarah Orban

C-2.2. 1st Reminder:

Good Afternoon Peer Mentors,

Earlier this week, we sent you a survey request asking for your opinions and thoughts on how your time as a peer mentor has impacted your Iowa State experience. To the best of our knowledge, we have not yet received your responses. The peer mentor process has shown to be very useful for the mentees that you advise but we are very interested to hear, from your perspective, how this program impacts you! Our hope is that by giving you the ability to provide viable information on this program we can further make an impact on the future peer mentors' experience.
This survey should take you no longer than 15 minutes to complete. To access the survey please see the attached link below.

Follow this link to the Survey:
$\{l://SurveyLink?d=Take the Survey\}$
Follow the link to opt out of future emails:
$\{l://OptOutLink?d=Click here to unsubscribe\}$

Your responses are voluntary and will be kept confidential. If you have any questions about the survey at any time please contact Sarah Orban at seorban@iastate.edu. We would like to thank you for taking the time and consideration to improve the peer mentor process for future mentees.

Best,
Sarah Orban

C-2.3. 2nd Reminder

Good Afternoon Peer Mentors,

About a week ago, we sent you a survey request asking for your opinions and thoughts on how your time as a peer mentor has impacted your Iowa State experience. To the best of our knowledge, we have not yet received your responses. The peer mentor process has shown to be very useful for the mentees that you advise but we are very interested to hear, from your perspective, how this program impacts you! Our hope is that by giving you the ability to provide viable information on this program we can further make an impact on the future peer mentors' experience.

This survey should take you no longer than 15 minutes to complete. To access the survey please see the attached link below.

Follow this link to the Survey:
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Follow the link to opt out of future emails:
$\{l://OptOutLink?d=Click here to unsubscribe\}$

Your responses are voluntary and will be kept confidential. If you have any questions about the survey at any time please contact Sarah Orban at seorban@iastate.edu. We would like to thank you for taking the time and consideration to improve the peer mentor process for future mentees.

Best,
Sarah Orban
C-2.4. 3rd/Final Reminder

Good Afternoon Peer Mentor!

Throughout the last couple of weeks, we have reached out to you in regards to completing our peer mentor survey. This is our final reminder to complete our provided questions and give you all a chance to provide feedback and insight into your experience as a peer mentor. Any input you can provide will be very beneficial to our research and the development of our future peer mentor programs. To complete this survey follow the link below.

- Follow this link to the Survey:
  \( \text{Follo} \)$
  \( \text{w this link to the Survey:} \)
  \( \text{${l://SurveyLink?d=Take the Survey}$} \)
- Follow the link to opt out of future emails:
  \( \text{Follow the link to opt out of future emails:} \)
  \( \text{${l://OptOutLink?d=Click here to unsubscribe}$} \)

Our research team realized that this time of year is very busy for college students and will leave the survey open throughout Christmas break if you get a chance to complete. This survey will close on January 1st so please have your responses completed before then. As we have stated this survey is solely voluntary and all the data collected will be kept confidential. If you have any questions or concerns reach out to Sarah Orban at seorban@iastate.edu.

Thank you for your consideration!