LEARNING COMMUNITIES ROLE IN ENHANCING DIVERSITY AWARENESS ON COLLEGE CAMPUSES: A DESCRIPTIVE CASE STUDY INVESTIGATING DIVERSITY AWARENESS OF COLLEGE FRESHMEN THROUGH A STRUCTURATION THEORETICAL LENS

A thesis presented
by
Larissa Anastasia Schyrokyj
to
The School of Education
In partial fulfillment of the requirements for the degree of
Doctor of Education
In the field of
Education

College of Professional Studies
Northeastern University
Boston, Massachusetts
March, 2014
Acknowledgements

I would like to thank multiple people who have helped me along this journey. First and foremost, I want to thank my advisors, Dr. Margaret Gorman Kirchoff, and Dr. Anita Kite for their time, energy, and expertise throughout all steps of the process. I know that I would never have gotten this far nor produced as strong a product without your help. Dr. Gorman Kirchoff helped me shift my perception on my research topic and consider new angles. Additionally, she served as calm support, encouraging me every step. I am beyond grateful to have been given the chance to work with her. Dr. Kite contributed a stellar quantitative background, pushing me to revise and strengthen my methodology and logic. I would also like to acknowledge my outside examiner, Dr. Charlotte Lofton, who was gracious and flexible with her time. Dr. Lofton contributed a unique and essential perspective on the project in terms of both methods checking and in terms of research applications.

I also am grateful to the faculty at Northeastern University. It has been an exciting journey, and the courses I took helped prepare me for successful dissertation completion. I want to acknowledge Dr. Yufeng Qian, whose Quantitative Research course gave me confidence when I started the dissertation process, and Dr. Carol Sharicz, whose summer residency course on Systems Thinking and Organizational Dynamics helped inspire my choice of Gidden’s (1984) Structuration Theory as a theoretical framework.

I want to acknowledge the multiple people that helped me in a myriad of ways at the college research site. Unfortunately, I am not allowed to thank them all individually here, as much as I’d like to, due to ethical protection of the site and the research participants. As such, I
am deeply grateful to the Liberal Arts Deans, Faculty Members, and Staff at the research site, as well as the Director and Staff at the Office for Students with Disabilities. There were multiple individuals that believed in this project, and worked hard with me to develop it, approve it, and ensure its success. I also want to acknowledge my faculty coders that helped maintain qualitative trustworthiness. I could not have done this without the encouragement and support I received from so many there.

I also want to give thanks to my fellow “unconferencers”, Shawn Kenyon, Mike McNiff, Kevin Reeds, Lee Specter, and Randell Trammell. You have been an essential part of this dynamic journey, and we have travelled through it together. I have gotten to know all of you personally, and have formed deep friendships with you. Your reading of my materials has helped me through tough academic patches, and your encouragement, warmth, and jokes have made this journey much easier. Thank you as well to the many other students in the program with whom I’ve enjoyed many good conversations.

This journey would not have been possible without the support and love of friends and family. Thank you all for believing in me. To all of my friends, thank you for putting up with my endless worry and discussion of my research, as well as my frequent social absences as I buried myself in work. To my family: words cannot describe how grateful I am for everything you’ve done. Thank you to my parents, Suzanne Crisci and Alexander Schyrokyj, who have provided endless love and encouragement throughout my life. You set me on this path, and encouraged diligence, and it is with joy and gratitude to you both that I complete this dissertation. To Nirav Dave, my partner, editor, cheerleader, and impromptu meal provider, your strength and support
were essential in this. You kept encouraging me to keep going. I am forever grateful for everything that you have done.

Lastly, in gratitude and remembrance, I would like to thank my Yaya (Grandmother), who gave me my first copy of The Hobbit. Her belief in education and love and support are a constant reminder that I should always pursue my dreams.
Abstract

This mixed-methods descriptive case study explored diversity awareness of college freshman enrolled in learning communities by examining the dynamic interplay between existing institutional forces associated with diversity awareness and perceptional awareness of full-time community college students from a Northeastern institution. Gidden's Structuration theory (1984) was utilized as the theoretical lens to uncover the institutional forces, college freshman's diversity awareness, and the dynamic interplay as perceived by college freshman enrolled in learning community seminar. The theory highlights the dynamic interactions between the institutional forces and the actor-freshman, as well as allowing exploration of the extent to which domination, signification, or legitimization impact perceptual development. The research was conducted using an inductive design with mix-methods, that occurred over three phases of data collection. These phases were review of university documents and learning community program design associated with expressing diversity awareness policies and practices (Phase I), administration of IAT survey to full-time community college freshman enrolled in learning community seminar (Phase II), and small group semi-structured interview with full-time community college freshman to ascertain their perceptions of about diversity awareness, institutional forces informing that perception, and the role of the learning community for shaping their perception awareness (Phase III). Data analysis occurred at the end of each data collection piece to allow insights and informed progress towards the subsequent phase. The key findings from this experiment suggest that critical thinking, connectivity, and diversity awareness are vital components of Learning Communities courses. Participants showed perception and knowledge around diversity awareness as an ideal, and within the course and the college as well. Participants also showed criticism of institutional ideals versus practical application of diversity
awareness ideals. This suggested a parallel between key themes of diversity awareness in terms of student perception and Learning Community enrollment, participation, and engagement. The study recommends diversity awareness applications in terms of the broader Higher Education framework and pedagogy, as well as for professional development training outside academia.

**Keywords:**
Learning Communities; Diversity; Diversity Awareness; Implicit Association Test; Higher Education; Communities of Practice; Structuration; Community College Pedagogy.
# Table of Contents

Table of Contents .................................................................................................................. 7  
List of Figures ......................................................................................................................... 11  
List of Tables .......................................................................................................................... 12  
**Chapter 1** .................................................................................................................................. 13  
Introduction ............................................................................................................................... 13  
Statement of the Problem ......................................................................................................... 15  
  *Problem of Practice* ............................................................................................................... 15  
  *Problem with Theory* ............................................................................................................ 16  
  *Problem with Research* ......................................................................................................... 17  
Research Questions .................................................................................................................. 19  
Theoretical Framework ............................................................................................................. 20  
  *Structuration world view* .................................................................................................... 22  
  *Duality of Structure* ............................................................................................................. 23  
  *Assumptions* ........................................................................................................................ 25  
  *Application of structuration theory* .................................................................................. 26  
Overview of Research Plan ..................................................................................................... 27  
  *Research Significance* ......................................................................................................... 28  
  *Research Assumptions/Delimiters/Limitations* ..................................................................... 29  
**Chapter 2 – Literature Review** .......................................................................................... 32  
  *Bias and Diversity Awareness* ............................................................................................ 32  
  *Diversity Awareness and Implicit Bias* .............................................................................. 33  
  *Malleability of Bias* ............................................................................................................. 35  
  *Bias and Perception* .............................................................................................................. 36  
  *Diversity Awareness* ............................................................................................................ 38  
  *Awareness and Race* ............................................................................................................ 39  
  *Diversity Awareness and Institutional Structure* ................................................................ 41  
Higher Education Diversity Growth ......................................................................................... 42  
Community and Connectedness ............................................................................................... 45  
  *Learning Communities* .......................................................................................................... 46  
  *Learning Community Benefits* ............................................................................................ 46
Learning Communities and Risk Factors ................................................................. 52
Application to Community Colleges ................................................................. 53
Definition of Key Terms .................................................................................. 54
Literature Review Conclusions ...................................................................... 55
Gaps in the Literature ..................................................................................... 57
Chapter 3 ........................................................................................................ 59
Research Tradition ......................................................................................... 59
Research Design ............................................................................................ 60
Design ............................................................................................................ 65
Research Site .................................................................................................. 65
Site Criteria and Rationale ........................................................................... 66
Participants ...................................................................................................... 67
Sampling Rationale ....................................................................................... 68
Power Analysis ............................................................................................... 69
Protection of Human Participants .................................................................... 69
Quantitative Measures .................................................................................. 70
Concerns about Bias .................................................................................... 70
Type of Data .................................................................................................... 71
Instrument ......................................................................................................... 72
Instrument Validity and Reliability ............................................................. 72
Data Collection ................................................................................................. 73
Experimental Procedure ................................................................................. 74
Data Preparation ............................................................................................ 75
Data Transformation ...................................................................................... 75
D-score .............................................................................................................. 76
Quantitative Trustworthiness ......................................................................... 79
Validity ........................................................................................................... 79
Reliability .......................................................................................................... 82
Generalizability ............................................................................................... 82
Test Generalizability ...................................................................................... 83
Quantitative Measures .................................................................................. 83
Quantitative Data Collection .......................................................................... 84
Question Four: Are there incongruences between the course experience in terms of diversity awareness and general awareness at the college? ................................................................. 116
Interaction Incongruence ........................................................................................................ 116
Closed Mindedness .................................................................................................................. 117
Discrimination ........................................................................................................................ 117
Question Five: In the future, if the college were to become a model of diversity awareness, how might that happen? ................................................................. 118
Community and Education .................................................................................................... 119
Restructuring administration ................................................................................................. 119
Phase Three Inter-rated reliability ......................................................................................... 120
Interviewer Coded Nonverbal behaviors .............................................................................. 120
Insights into Research Questions ......................................................................................... 121
Sub-question One: How do institutional forces impact the formation, attitudes and pedagogy of Learning Communities? ................................................................. 121
Sub-question Two: To what extent do demographic variables (race, gender, age) predict implicit bias as measured by end of semester implicit bias survey? ......................... 122
Sub-question three: How do college freshman who've enrolled in learning community seminar perceive the institutional factors that shape diversity awareness at this campus and through the learning community seminar? ................................................................. 123
Summary Findings from Overall Analysis .......................................................................... 126
Chapter 5 ................................................................................................................................. 129
Participant Profile ............................................................................................................... 130
Interpretation of Themes ........................................................................................................ 130
Discussion & Conclusions .................................................................................................... 134
Key Study Findings .............................................................................................................. 134
Incongruences between the research findings and the literature ........................................ 135
Implications for theory development/New Model .............................................................. 136
Future Research .................................................................................................................... 137
Implications for Practice ....................................................................................................... 138
Summary & Reflections ......................................................................................................... 140
Appendix One ........................................................................................................................ 143
Phase Three: Semi-structured Small Group Interview Questions ........................................ 143
References .............................................................................................................................. 144
List of Figures

Figure 1: Factors Impacting Higher Education Freshman Enrollment .............................................. 21

Figure 2: Gidden’s (1984) Structuration Framework ........................................................................ 24

Figure 3: Structuration Application ................................................................................................. 27

Figure 4: Participant Mean D Scores ............................................................................................... 106
List of Tables

Table 1: Demographic Site Information (Institutional Effectiveness Data: Fall 2012) ............ 66
Table 2: Student Outcomes from Phase One of Data Analysis ............................................. 97
Table 3: Critical Thinking theme, subthemes, and in vivo exemplars .................................... 99
Table 4: Diversity Awareness theme, subthemes, and in vivo codes ...................................... 100
Table 5: Communication theme, subthemes, and in vivo exemplars ...................................... 102
Table 6: Question One Themes, subthemes, and in vivo exemplars ..................................... 110
Table 7: Question Two Themes, subthemes, and in vivo exemplars ...................................... 112
Table 8: Question Three Themes, subthemes, and in vivo exemplars ................................... 115
Table 9: Incongruence Themes, subthemes, and in vivo exemplars ....................................... 118
Table 10: Question Five Themes, subthemes, and in vivo exemplars ..................................... 120
Chapter 1

This doctoral thesis explored the role of Learning Community seminars in shaping college freshmen’s diversity awareness. The purpose of this document was to layout the conceptual and methodological approach for examining the phenomenon. This document was organized around the three main chapters of a final manuscript, which included a general overview chapter, a chapter which presented the results of a literature search, and a chapter which outlined the intended research design and methodology.

Introduction

Approximately 65 percent of upcoming America's population growth for the next two decades will be classified as “minority,” particularly with the new ability to check multiple race boxes on Census surveys. Additionally, the United States has experienced a positive shift in higher education enrollment. According to the U.S. Department of Education, college enrollment increased 37 percent between 2000 and 2010, from 15.3 million to 21.0 million. This growth was seen for both part-time and full-time students, with full-time students rising by 45 percent, and part-time students rising by 26 percent (U.S. Department of Education, National Center for Education Statistics, 2012).

Despite this population shift, there are still gaps within the educational system in terms of diversity awareness. The National Science Board (2010) suggests that there is a lack of inclusiveness within education, at all levels, from teacher diversity profiles to classroom management and sensitivity. This is surprising, as there have been ongoing efforts in the United States for educational reform and increased diversity awareness in education since the early 1960’s. By the early 1980’s there were multicultural education programs designed to help
promote educational equality, which were based on the need for increased diversity acceptance and understanding (Banks, 1981). These programs were well funded, and formed the background for the multiple curriculum shifts and frameworks for diversity education in the 1990’s up to today (Ovando & McLaren, 2000). Diversity awareness is acknowledged to be essential to inclusive pedagogy and teaching effectiveness. However, despite these efforts, both in terms of time, as well as funding, Higher Education in the United States is still struggling with effectively implementing diversity awareness in the classroom.

While the classroom population of the United States is growing increasingly diverse (US Census, 2003), there appears to be a continuous achievement gap within higher education for minority students. A 2013 New York Times article termed this “the great stagnation of American education” (Gordon, 2013, p.1), pointing out that concerns about America’s growth (both economic and social) for minority students have broad educational roots. Gordon (2013) suggests that the decrease in minority student educational success combined with the overall increase of college affordability and educational funding has resulted in a drop in college completion. Specifically, Gordon points out that the data suggests that there is an increase in the higher education achievement gap for minority populations, despite increased college attendance for a growing, diverse population.

Additionally, there are gaps in student achievement. This is true for the United States population in general, when compared globally as rated by the Program for International Student Assessment, but it is also true in terms of race. Lubienski, McGraw, and Strutchens (2004) examined and interpreted data from the National Assessment of Educational Progress (NAEP), and found that while the achievement gap has significantly reduced since the 1980’s and 1990’s,
the achievement gap between black and white students and between Hispanic and white students in the U.S. still exists, and suggests large achievement disparities between groups on multiple measures. The achievement gap findings show underperformance in both math and verbal measures of student achievement.

Statement of the Problem

Problem of Practice

Gordon (2013) suggests that higher education is facing a problem of global diversity awareness. Academic Institutions are struggling with enhancing diversity awareness at an institutional level (Gordon, 2013). While Higher Education has spent millions on diversity education and awareness but we still have disconnects. Despite years of effort and funding, our diversity efforts are still falling short, and there are multiple consequences as a result (Harris, 2008).

Some of these consequences include high attrition but low retention rates. Minority students and underrepresented students are less successful and less likely to be retained at academic institutions partially because of societal, institutional, and self-biases (Gather, 2005). Higher Education is currently concerned with student engagement and retention overall (Presky, 2005). Student connection and engagement are a critical issue for administrators, as between 25% and 60% of students can be considered disengaged (Harris, 2008). If educators fail to critically consider how educational structure, systems, pedagogy and curriculum are supporting students, they may negatively impact their education and future success (Robinson, 2009). While some institutions continue to give lip service towards issues of diversity awareness, the growth
of Learning Communities in the United States suggests that this issue is of serious concern to educators, and that higher education institutions are focused on enhancing student awareness, and connectedness (McLaughlin & Talbot, 2006). Specifically, Higher Education appears to be concerned with highlighting institutional bias and increasing diversity awareness to combat risk problems that minority students face.

**Problem with Theory**

While Higher Education may have good intentions in terms of diversity awareness, administrators, leaders, and faculty, as well as students are all products of their embedded institutional, social, and cultural attitudes and norms (Giddens, 1984). Educational Systems may cause underrepresented students to feel less connected to the institution because of diversity awareness biases (hegemonic ideologies) in the institutional environment. As such, there may be institutionalized biases and diversity attitudes embedded within our educational systems that are subconsciously manifesting, as well as having practical implications and psychological effects on students.

While prior studies have taken an applicable social integration perspective that promotes student engagement (Tinto, 1975), they fail to discuss the vital interaction between societal and institutional factors and individual agent’s beliefs and perceptions. Structuration theory uses an integration approach to help show the dynamic interplay between the institution and agent belief and behavior. Structuration theory suggests that these biases may occur in educational systems because of structurally supported and institutionalized cultural beliefs that are furthers and perpetuated by agent actions (Giddens, 1984). Specifically, that students who self-identify as
non-white are underperforming academically and feeling disconnected and disengaged socially (Waldron & Yungbluth, 2007).

**Problem with Research**

Understanding how pedagogical practices can help reduce student biases can help increase student success, retention, achievement, self-esteem, and connection to the school. In order to address the problem of diversity awareness in Higher Education, Learning Communities have been suggested as a possible solution (Lieberman & Miller, 2008). The aim of Learning Communities is to attempt to better serve underrepresented students by encouraging personal reflection in the classroom and by creating dynamic, inclusive discussions focused on growth, learning and reflection through engagement (McLaughlin & Talbot, 2006). The established literature suggests that Learning Communities benefit students in terms of diversity education and acceptance (Lieberman & Miller, 2008).

However, there are deficiencies in the Higher Education Learning Community literature. While studies have demonstrated that Learning Communities benefit students in terms of connection, engagement, critical thinking, and retention (McLaughlin & Talbot, 2006), that diversity education benefits students (Waldron & Yungbluth, 2007), and that attitudes and implicit biases are malleable and can be changed (Dunham, Baron, & Banaji, 2007), there is a gap in the literature that fails to connect educational pedagogy around Learning Communities with cognitive changes in the brain and implicit bias awareness.

Additionally, while research has investigated the impact that Learning Communities have in a community college setting (Tinto, 2000), it focused on the content of the changes, and not the dynamic interplay of how and why the changes occurred. Additionally, the research mainly
focused on individual student experiences. There continues to be a gap in the research that does not connect student experiences to embedded institutional attitudes and subsequent institutional forces. The research fails to link diversity awareness in Learning Communities to implicit attitude formation as a result of the interaction between institutional forces and agent attitude formation. Specifically, the literature fails to connect the benefits of Learning Communities (McLaughlin & Talbot, 2006) to the dynamic interplay of institutional forces and implicit attitude formation (Dunham, Baron, & Banaji, 2007) and effects on behavior and student experiences (Waldron & Yungbluth, 2007).

These two findings suggested the need for further research, as supported by Creswell (2012), who points out research gaps in the literature highlight areas of potential future inquiry. As such, it is important to discuss the role of diversity awareness in student success and engagement. Understanding how biases impact others is imperative for increasing student success and understanding. The positive practices of Learning Communities are apparent in the literature, as are the diversity awareness failures within Higher Education. However, there is a failure in the literature to connect the two.

Therefore, the purpose of this doctoral thesis was to examine the role of Learning Communities in diversity awareness for college freshman enrolled, to include their perceptions of institutional forces that effect diversity awareness. The current research addressed the gap in the literature by examining the link between institutional norms and college freshman diversity awareness. Specifically, this research explored how student enrollment and participation in Learning Communities impacts student perception of diversity awareness and attitude formation as a function and interaction between their attitudes and the academic institution as a whole.
Research Questions

Research Question: The primary research question shaping this doctoral thesis was: How is college freshman diversity awareness shaped through learning community seminar participation?

This thesis had three sub-research questions.

Sub-question one

How do institutional forces impact the formation, attitudes and pedagogy of Learning Communities?

Sub-question two

To what extent do demographic variables (race, gender, age) predict implicit bias as measured by end of semester implicit bias survey?

Sub-question three

How do college freshman who've enrolled in learning community seminar perceive the institutional factors that shape diversity awareness at this campus and through the learning community seminar?

The research questions were designed to address deficiencies in the evidence (Creswell, 2012). The main research question was designed to explore diversity awareness of college freshman enrolled in learning communities by examining the dynamic interplay between existing institutional forces associated with diversity awareness and perceptional awareness of full-time community college students from a Northeastern institution. The three sub-research questions each addressed an individual component of the guiding research question.
Theoretical Framework

This research examined the impact of Learning Communities on student diversity awareness and perceptual through the framework of structuration theory. Learning Communities (Lenning & Ebbers, 1999) benefit students by promoting higher academic achievement, better retention rates, diminished student isolation, increased student self-esteem, and increased student engagement and institutional integration. Although Learning Communities have been found to benefit students as a whole, the literature suggests that minority students feel threatened due to institutionalized biases and may underperform and feel less engaged and connected at the school (Steele & Aronson, 1995). Embedded cultural and social attitudes at the institutional level impact Higher Education leaders, faculty, administration, and students. They also influence educational funding, pedagogy, and student support. Addressing the issue of institutionalized bias and embedded attitudes at institutions through Learning Community cohort learning may help address this problem.

This doctoral thesis focused on the phenomenon of diversity awareness as understood by personal perception and shaped by institutional forces and instructional activities such as Learning Community seminars offered to college freshman. Therefore, the key concepts explored in this doctoral thesis include Diversity Awareness and Perceptual Awareness, as well as Institution Forces and how they impact the context of college freshman enrollment in Learning Communities. This dynamic interaction is graphically represented in the figure below.

The graphic model suggests the cyclical flow of how institutional forces create and maintain community connectedness and awareness, which in turn impact agent behavior and help reinforce existing institutional forces. This figure suggests that the context of Higher
Education Freshman enrollment is impacted by forces and influences on the institutional structural level, but also that those forces can shape the institution’s sense of community, and awareness, as well as connectedness and awareness on a personal level. These factors combine to influence enrollment and retention, which subsequent shapes the Higher Education Diversity profile at the college in general.

It should be noted that the concepts of Community/Connectedness, as well as Agent Behavior will not be explored in the proposed research, as the current study design will not practically allow behavioral assessment. This is a potential study and design limitation that will be discussed in later chapter chapters. However, these factors are depicted graphically below to give an idea of how the broader model fits together.

*Figure 1: Factors Impacting Higher Education Freshman Enrollment*
Structuration world view

Anthony Giddens developed his structuration model (1984) as an attempt to better quantify abstract social phenomena and experiences. Giddens was hoping to create a more universal social theory which better quantified social experiences as a construction and relationship between social practices. Gidden felt that social theories should not focus solely on individual experiences or societal totalities, but on an integrative model, critiquing the earlier theorists such as Marx, Weber, and Durkheim for their lack of socio-structural context and dynamic human elements and interactions.

In many ways, Gidden’s work was an attempt to create and interdisciplinary theory that pulled ontology from multiple domains in order to better classify and quantify logical humanist and societal issues. Stones (2005) suggest that Giddens relied on historians, philosophers, geographers, writers and social scientists when creating his theory. Giddens felt that there are generalizable context that occur via culture, and that these cultural contexts help shape our frames of meaning and experiences. This novel and unconventional approach challenged existing frameworks, theories and pedagogy within the social sciences because Giddens felt that structure occurred and existed through the actions of human agents. This was contrary to the idea at the time of agency being contained within a person.

Rather, Giddens felt that agent action is learned and reinforced by set societal structure, and that agency was defined by the frequency and patterns of agent actions. Structure can be seen as a social existence as opposed to a physical one (Giddens, 1979). This suggests that social practices can be “ordered across space and time” (Giddens, 1984, p. 2).
Duality of Structure

Giddens (1984) defines structure as both rules and resources, along with basic societal structuring properties that allow for time-space to be bound and set in an array of social systems. This suggests that social practices and experiences can be made continuous, systematic, and become engrained in social structure. These practices do not exist in a vacuum. Giddens (1984) points out the necessary existence of agents, which can be individual people or groups of individuals. Actors utilize these social structures to engage in societal interactions and social actions. These actions further set the social structure within individual context and societal embedded memory. Structure becomes inherent to, maintained by, and the result of agent social constructs and practices. Giddens (1979) notes that social life is recursive, pointing out that “structure is both medium and outcome of reproduction of practices. Structure enters simultaneously into the constitution of the agent and social practices, and ‘exists’ in the generating moments of this constitution.” (p.5).

Therefore, structure can exist internally within agents as cultural memory and social norms, as well as externally created and maintained by agentic social actions and belief structures. This duality is the essence of Gidden’s (1984) structuration theory. Human agency and set social structure have strong consistent interaction effects and it is through the repetitive actions of human agents that structure is reinforced, reproduced, and perpetuated.

Gidden’s (1984) structuration framework suggests a sociological model, in which there is a complex dynamic relationship between society, societal constructs and institutions, and the actor-individual. Social experiences are a function of and interaction between individual agency and structural products and influences. This model defines objective social structures by societal
properties, and individual actor-agents are seen by their properties and experiences. This suggests an integrative duality of mutual growth and influence between societal structure and actor experience, interaction, and agency. Other theorists have touched upon this duality, such as Wenger, who in his Communities of practice theoretical framework highlights the duality of reification-participation. However, Gidden’s (1984) adds depth and scope to the idea that internalized societal structures have resulting institutional and actor influence. An adapted model of Gidden’s (1984) framework can be seen below.

*Figure 2: Gidden’s (1984) Structuration Framework*

This model points to three key factors in Giddens framework: structure, interaction, and modality. The above figure points out that structure is comprised of three dimensions: signification, domination, and legitimation. Interaction is comprised by communication, power,
and sanctions. Modalities are defined as the means and ways through which structure becomes action. Modalities help explain the multiple ways and context interaction is impacted and translated to social existence. Interpretive schemes discuss societal meaning, and how that meaning is produced and established. Facility explains the subsequent levels of power that actor behavior, roles and structure give shape to in society. Lastly, norms refer to existing and supported societal norms that have been instituted as part of daily life. This sets up a complex model in which actor behavior gives rise to acknowledging sources of power, interpreting them, allowing them control, and then giving them legitimacy by sanctioning them. Modality serves as a tool to further interaction and is subject to cyclical influence. Interaction is based on structure and interpretation allows structure to reinforce and shape agent actions.

Assumptions

Giddens (1984) structuration theory operates under a few existing assumptions. The first assumption is that organizational groups can be created, maintained and reproduced by agent attitudes, thoughts, and behavior and that these groups develop a social structure. The second assumption is that in order for the group to function, there is an existing set of communication rules that serve as a social medium to moderate and decide situational outcomes. Third, structuration theory assumes that structure gives rise to power, and that power can be legitimized and sanctioned within society. However, most importantly, structuration theory relies on the assumption that agent behavior and structure are interconnected, and that individuals are socialized to become social creatures with cognitive awareness of social norms and structures.
Application of structuration theory

The proposed research expands structuration theory in a few different ways. Firstly, it adds support to the literature that suggests that attitudes around and perception of diversity awareness are intuitionally and systematically internalized. Secondly, it examines structuration through teaching pedagogy, using the theory to help make positive classroom changes, an idea which is supported by the assumption that practical discussions and experiences help remove internalized biases and prejudices held by individuals.

Lastly, it strengthens the theory by adding better fit and theory connectivity. Specifically, while studies have demonstrated the benefits of Learning Communities (McLaughlin & Talbot, 2006), and that diversity awareness is malleable and subject to change (Dunham, Baron, & Banaji, 2007), the literature has yet to connect the two, and to do so under the lens of structuration theory. This research remedies that.

Specifically, the research used structuration theory to examine institutional forces around diversity awareness, specific measurements of diversity awareness and student demographic variables as predictors of diversity awareness, as well as the dynamic interplay between institutional forces and diversity awareness. A model of this flow is depicted below. The double-headed arrow points to the reinforcing link between institutional forces and agent attitudes, showing the interplay of structuration theory.
Figure 3: Structuration Application

Overview of Research Plan

A descriptive Case Study (Creswell, 2012) to investigate the role and dynamic interplay between institutional factors and learning community seminar enrollment have in shaping diversity awareness of first semester college freshman at a US public community college was conducted. An inductive design with mixed-methods was used, to include college document review, quantitative survey, and semi-structured interviews over three phases. Data analysis occurred at the end of each data collection piece to allow insights and informed progress towards the subsequent phase. Phase I involved Learning Community document review and analysis. This included a review and content analysis of college documents associated with strategic initiatives about diversity education, as well as the mission and core values for learning community seminars.

Phase II involved the end of semester testing of implicit bias of learning community seminar enrolled freshmen, and analysis of how student demographic variables impact biases. Phase III involved semi-structured small group interviews of learning community seminar freshman post-semester in order to determine their perceptions of diversity awareness as a whole,
within the course, at the institution, as well as institutional factors that had a role in shaping their diversity awareness. The design was run as a descriptive case study, as it was limited to individuals enrolled in a select Learning Community seminar, and not all students enrolled at the college. This experiment used a single group of first semester full-time freshman in a required freshman seminar.

*Research Significance*

The concept of how to best influence and impact diversity awareness is a vital question in light of the changing student demographics in the United States. It is important to consider how at risk populations are performing in schools, and how they are being perceived by others. The United States has made significant strides in terms of racial perception, however, many biases have become subtler, implicit and tend to manifest in terms of covert, institutional racism, albeit unintentionally (Jencks& Phillips, 1998). The authors suggest that institutional racism may occur in more obvious forms, such as culturally biased achievement and standardized tests. They point to the achievement gap in terms of performance on standardized tests between Blacks, Hispanics, and Whites, even when socioeconomic status and other third variables are controlled for. However, institutional bias may also occur in subtle, cultural ways, especially in institutions that were once traditionally white. Additionally, this bias may occur in terms of funding and aid given, or in terms of institutional or student body perspective.

Researching the role of social structure and individual student experiences in Learning Communities benefits academic institutions at multiple levels. As always, the first concern is for the students. Better understanding of how to impact diversity awareness makes students more comfortable at their colleges, which will allow better classroom focus. This research also
benefits teachers, who can apply it to their classrooms in order to facilitate discussion and increase student engagement. Lastly, it helps academic institutions grow as an entity, increasing enrollment to minority students.

The findings from this study have the potential to reshape institutional structure by modifying how we train faculty and staff to be more aware of diversity awareness, individual biases, and overall impact on student perceptual awareness. The data impacts how we support incoming freshmen, as well as continuing and transfer students that still struggle with awareness, connectivity, and acceptance. The concept of the Learning Community seminar could extend diversity awareness in terms of connectivity and bias perception beyond the initial Freshman year.

Investigating how to increase diversity awareness in courses designed to promote student achievement furthers the aims of the courses and creates a more inclusive classroom environment and institution. If these problems are ignored, it furthers inequity at academic institutions, underserve our students, and promotes biases and inequalities for future generations. Therefore, the purpose of this doctoral thesis was to explore the dynamic interplay between student enrollment in learning communities and existing institutional structures in order to examine how existing social structure impacts student awareness and perception.

Research Assumptions/Delimiters/Limitations

As this research is using Giddens (1984) structuration theory as a theoretical lens, the theory assumptions hold true for this proposed research: that organizational groups are
maintained and reproduce by agent behavior, that there are group communication norms that moderate situations, and that power is legitimized and sanctioned within society.

This links to a broader perspective of social construction of reality, which suggests that our perception of the world becomes our reality of it, and that our perceptions are based on learned and internalized interpretations of the world that occur via dynamic interpersonal interaction. This also assumes that objects and ideas can take on broader symbolic and cultural meaning, and that this social meaning gives subsequent shape to our attitudes, behaviors, social norms, as well as the means and ways we structure and maintain our institutions. Our sense of the world, ourselves, our identity, our ideologies and our purpose comes from our concept of structure, roles, and action within society. However, there is an assumption that all of these will be in flux, subject to constant change through interaction.

Additionally, while the goal of research is to be as universal and generalizable as possible, practical concerns can create research limitations that impact the scale and scope of the findings. As this research not only specifically examined student experience within a set scale of pedagogy (Learning Community courses), but did so for a unique, small population, there were limitations. While experience and identity are socially constructed, and agent behavior furthers social concepts of structure, the participant experience may only be valid and applicable for their population’s social constructs and rules. The population in question also is all within a limited age range, which may have biased perceptions of power, influence, and experience.

In conclusion, educational issues in the United States currently suggest a growing need for better attention to diversity awareness in Higher Education in order to better support students, as well as increase engagement and academic achievement. Gidden’s (1984) structuration theory
highlights the interactive duality between individual behavior and social structure. Specifically, that social concepts and structure are reinforced and perpetuated by actor attitudes. A primary research question, as well as three sub-questions were proposed to examine student educational perception and awareness, as well diversity education within Learning Communities, through the lens of structuration theory. Chapter two discusses the critical literature on diversity attitude formation, race and education, and Learning Community formation and benefits.
Chapter 2 – Literature Review

This chapter explores the research foundation that drives the current research, investigating the role of individual perceptual bias and the impact of diversity awareness on perception. Additionally, the impact of diversity awareness is explored, examining how diversity education impacts student experience and perception. The diversity profile and implications for Higher Education students is presented. This chapter discusses means to alter implicitly held diversity attitudes via exposure and education. The ameliorating effects of Learning Communities are considered as well as the benefits. Lastly, Learning Community benefits for community colleges are discussed. The organization of this chapter is based on the three main concepts of Bias/Awareness, Higher Education Diversity Profiles, and Community/Connectedness.

Bias and Diversity Awareness

Understanding and resolving personal biases can be complicated, as many biases are subtle and take time to process. This is especially true as individuals learn and obtain many of our societal biases at a young age (Bargh, 1997). Bargh (1997) suggests that our diversity awareness and perceptual understanding is impacted by internalization of attitudes and norms during early childhood. As such, in order to better understand the link between individual bias and diversity awareness, it is essential to discuss how implicit bias operates. For the purposes of this discussion, implicit biases are defined as negative cognitive associations formed as a result of societal attitudes and held subconsciously and can be towards any social group (Banaji, 2001). This section discusses implicit biases, the malleability of biases, and the impact of bias on
perception. Secondly, broader biases are discussed in terms of race and diversity awareness, as well as embedded diversity attitudes within institutional structure.

*Diversity Awareness and Implicit Bias*

One important part of attitude formation is the concept of implicit bias. Diversity attitudes have been strongly linked to unconscious, or implicitly held attitudes (Banaji, 2001). Diversity attitudes and behavior are impacted by unconsciously held biases, as embedded social and cultural norms strongly influence attitude formation, as well as perceptual awareness. As such, it is important to discuss how implicit attitudes are created and maintained. This is particularly true in terms of the proposed theoretical framework, as structuration theory uses agent attitudes as an integral part of the design (Giddens, 1984).

Implicit bias occurs when individuals hold negative cognitive associations subconsciously. There is a difference between implicit attitudes and behavior. An individual may consciously reject stereotypes and engage in non-discriminatory behavior while still maintaining implicit biases. Banaji (2001) found that measures of implicit cognition can reveal our subconscious mental associations without active introspection required on the part of the participant. She concluded that a majority of individuals hold unconscious biases without active awareness of them. Her findings are consistent with other research. (Bargh, 1997; Fazio, Sanbonmatsu, Powell, & Kardes; Wilson, Lidsey, & Schooler, 1986).

Implicit Bias research has been studied and investigated across a number of fields, including race and gender. One common method of testing implicit bias is to use the Implicit Association Test (IAT). The IAT measures unconscious biases by measuring response time (RT)
to word pairings associated with race and ethnicity. When first created by Greenwald, the IAT showed that people’s subconscious reactions based on their reaction times did not match their self-reported attitudes. Greenwald, Poehlman, Uhlman, and Banaji (2009) conducted a meta-analysis of 61 studies, and concluded that IAT is valid and reliable. They concluded that implicit attitudes could reflect subtle race and gender biases, and that the IAT was a valid predictor of implicit judgments and reactions linked to unconscious prejudices.

These biases have been observed in children as well as adults. Dunham, Baron and Banaji (2006) found that unconscious biases occurred in children as young as six. They discovered that Japanese and white New England children implicitly preferred faces similar to their own, and despite expressions of egalitarian views, both groups showed an automatic bias against black faces on the IAT. Both implicit and explicit attitudes toward European faces became more positive.

Some researchers suggest that modern political and social standards of equity have resulted in biases been less expressed explicitly, and more likely to be expressed implicitly. There are social pressures, as well as legal ones to conform to group norms and appear to be non-prejudiced towards groups or individuals. (Dunton & Fazio, 1997). This suggests that implicit attitudes and behaviors are not always positively correlated. When behaviors are subject to interpretation, or biases can be subtly, or implicitly expressed, people are more likely to show biases (Dovidio & Gaertner, 2000). Therefore, self-report data is less applicable and more likely to show compliance to current social norms.

Greenwald, McGhee and Schwartz (1998) conducted a study examining the relationship between self-reported attitudes and implicit attitudes. They found strong differences between the
two. Participants who reported that they viewed whites and blacks as equal, and that they felt exactly the same about both groups still showed strong implicit differences. Specifically, the participants showed a stronger bias and implicit positive perception towards whites.

It is important to note that these automatic cognitive biases may not be intentional or occur through any fault of the individuals. Rather, it is that humans are social beings and we are all products of the society and culture in which we grew up, socialized in, and went through critical developmental stages. Devine (1989) claimed that our implicit cognitive associations may not be even taught or explained to us directly, but are acquired and reinforced as a result of our living in and socializing in societies which traditionally show inequitable disparities in terms of class, education, and power.

However, all is not lost. There have been some intervention strategies that have proven effective in bias perception and awareness. Traditionally, those that rely on forced interactions or color-blind strategies are less effective, even though they encourage a focus on accurate, non-group membership based judgment. These interventions may even backfire and increase implicitly or explicitly held biases. (Schofield, 1986). Suppression of biases, or ignoring them may also reinforce them.

*Malleability of Bias*

However, implicit bias is not set in stone. Having established the existence and impact of implicit biases (Banaji, 2001), the research evolved to examine whether implicit biases could shift, given experience and exposure. Cognitively, we automatically categorize by social categories and use cognitive heuristics to help us make decisions and form attitudes about
people, situations, and information (Feldman, 1995). Culture does play a role in shaping our implicit biases, and cultural changes can shift the content of our automatic attitudes. Dunham, Baron, & Banaji (2007) conducted a study of 234 Hispanic-American children, and found that they compared themselves favorably to African-American children, but less favorably in response to white children. She was particularly interested in researching children, as she suspect that children would have salient attitudes but lack the stronger awareness of social convention and political awareness that adults have that may shape and change the content of our attitudes.

Dunham, Baron, & Banaji (2007) concluded that the lack of in-group preference meant that cultural norms and values play a role in creating, solidifying, and altering our implicit attitudes, and that our unconscious biases are malleable, with sufficient motivation, time, and learning. As such, there is a need to consider how minority students are impacted by biases in the classroom. These biases may occur in the form of other students’ attitudes, educator attitudes, or institutionalized traditions of inequity. This suggests that as implicit biases are malleable through exposure, experience, and discussion, considering the impact and implementation of diversity awareness within Higher Education may be critical in help aid at risk students.

**Bias and Perception**

It has been suggested that race may be one of the most obvious and influential personal characteristics used in person perception (Ito & Urland, 2003). Stereotypical portrayals of social groups activate an abstract schema of those groups, that consists of societal knowledge and expectations that assist us in processing social information and category membership (Hansen & Krygowski, 1994). Stereotypical television images of Blacks increase the likelihood that whites
will make negative social perception judgments of an unrelated Black target (Ford, 2000). While stereotypic behavior contributes to racial stereotyping, it is not a necessary condition. Ambiguous behaviors are more likely to be interpreted negatively when they are perceived as being committed by a Black individual than a White (Correll, Park, Judd, & Wittenbrink, 2002). As such, this suggests that Black students may be more likely to be viewed negatively by society, and may carry that perception into the classroom with them. This places them at risk for lowered retention and academic achievement, as well as a drop in self-esteem. Additionally, this may prove an obstacle to academic success, as awareness of bias lowers self-disclosure and inhibits academic performance.

Demographics and Implicit Bias

The literature suggests that personal characteristics such as race and gender impact implicit attitude formation and response. While implicit attitudes do exist for most groups of individuals (Banaji, 2001), investigation into racial differences in implicit bias formation and perception show that white participants may display stronger implicit attitude differences when categorizing white and black faces. Specifically, that Whites showed a preference for White faces over Black faces, as well as more negative automatic associations for stereotypically Black names (Greenwald, McGhee, & Schwartz, 1998).

This suggests that participant demographics may play a role in the formation of implicit bias. Within the same study, these findings were also found to be true for Korean and Japanese faces, when shown to Korean and Japanese participants. Both groups of participants showed a majority or in-group bias. This pattern of demographics predicting response patterns has also been shown across gender, with stereotypic differentiation occurring for males and females.
(Rudman, Greenwald, & McGhee, 1996). It is important to note that biases and patterns of characterization do occur across demographics, and that generalized biases may be held more universally, regardless of racial or gender category. However, the literature suggests that participant demographics may polarize and strengthen responses based on in-group participant identification and affiliation.

Diversity Awareness

One major issue around diversity education is that individuals often experience psychological backlash when discussing issues of diversity. This may occur because they are being forced to discuss the issues and have little to no choice in the discussion. It may also occur because they feel they lack the freedom to fully express themselves without fear of judgment. Lastly, backlash may occur because the participants may feel that others think, or are implying that they are prejudiced. These issues are of critical concern for academic institutions, many of whom favor diversity discussion and strongly support the enrollment and creation of an equitable, diverse student population that is an accurate representation of the current demographic in America. McCauley, Wright and Harris (2000) found that 81% of U.S universities and colleges use some form of diversity training, education and workshops to aid in educating their student population, faculty, and administration. As such, it is important to be concerned with the efficacy of diversity awareness. These is a need to better research and understand best classroom practices in terms of awareness in order to better support minority students and aid in helping academic institutions grow.
Awareness and Race

Given the findings of McCauley, Wright, and Harris (2000) that diversity training does occur frequently within Higher Education, it is important to consider how minority groups are performing in schools, and how they are being perceived by others. Despite Higher Education Administrative efforts, there are still areas of underperformance and bias that occur. Jencks and Phillips (1998) found that achievement gaps occurred in terms of academic test performance, with whites testing better than blacks. This pattern also holds true for IQ tests. However, institutional bias may also occur in subtle, cultural ways, especially in institutions that were once traditionally white. Additionally, they may occur in terms of funding and aid given, or in terms of institutional or student body perspective.

These biases have the potential to negatively impact student performance. Steele and Aronson (1995) termed this stereotype threat, and defined it as an experience of stress or anxiety in situations where individuals feel that a stereotype about their social group is relevant and may be confirmed negatively. They found that students are more vulnerable to stereotype threat, and that it can negatively impact academic performance. This is especially true when students want to perform well on the task, have a strong cultural identity with their social group, or fear institutional stereotypes based on their social group. This suggests that students that feel marginalized are at increased risk of poor academic performance and dropping out of school. These risks are not because of any innate ability on the part of the student, but of social and institutional problems that led the student to experience threat.

Additionally, it has been suggested that experiencing stereotype threat on a frequent basis increases the risk of underperformance by the student, and leads to a loss of motivation and self-
esteem. It is therefore important to consider institutional perspective of minority groups, and what factors impact their performance, success, and retention. This will allow academic institutions to build communities that will better support students and help eliminate the current achievement gap. Additionally, bias awareness may help students achieve more, and experience better social connections.

Tate (1997) pointed out that segregation and racial inequities continue in the United States. The finding was that while “African Americans represent 12 percent of the national population, they are the majority in twenty-one of the twenty-two largest (urban) school districts.” (p. 55) Furthermore, many these school districts were considered underfunded, and to be poorly serving their students in terms of critical application of vital educational skills, as assessed by test performance, graduation rates, and student achievement. This suggests that the American educational system is not as colorblind as it would like to think, and that the purported objectivity and equality that is supposed to govern the schools may not be as robust as some would like to think.

Tate’s (1997) builds towards an acknowledgement that educational gaps in achievement and school inequities may exist partially because of a historical and societal tradition of implicit and explicitly embedded attitude structure and behavior that impacts students on multiple levels: personally, in the classroom, in terms of aid and support provided, and in terms of broader United States legislation and decision making. This idea is central to Gidden’s (1984) structuration theory. Secondly, the literature points out that structurally embedded racial attitudes may subsequently impact achievement. Ladson-Billings and Tate (1995) examine how subtle racism and privilege impact achievement in education. They argue that students are rewarded
when they confirm to traditionally white ideals and attitudes, and that white students are more likely to be given additional privileges and access within the school. Additionally, there may be subtle cultural attitudes embedded in the educational experience that place a greater value on white identity and experience. The researchers point out that this may create educational inequities that are structurally and socially unfair to students of color.

These inequities have huge implications for student achievement, student self-esteem, and student retention. This serves to create a vicious cycle in which student achievement impacts future success, earning potential and individual welfare. The cycle of racial inequities within Higher Education points to an institutional structure that perpetuates and reinforces inequitable attitudes through social norms, and furthers them through agent cognition and behavior.

**Diversity Awareness and Institutional Structure**

These attitudes may also be structurally institutionalized in terms of broader campus dynamics and culture, and perpetuated by all actors involved. Solorzano (1998) investigated racial micro-aggressions, finding that race was imbedded in multiple aspects of campus climate, organizational dynamics, and culture, and that it pervaded subtle and overt attitudes and behaviors on the campus. These perpetuated attitudes and behavior were also seen on an administrated level, from educational pedagogy, funding, curriculum, and assessment. This suggests that racial attitudes are pervasive in all aspects of educational culture, from faculty to administration.

The role of race in terms of student success and retention is a complex one. There are a number of racial distinctions that exist in terms of student perception of education. To start, there
is some evidence to suggest that black students may see testing as less important than white students, and perceive the testing to be biased (Blau, 2003). The researchers argue that students have different values of merit, and not all attribute the same weight to test scores. Be this as it may, it does set up an unequal system, leading students down longer educational paths to graduation, and thus put them at higher risk of dropping out.

Jupp and Slatery (2010) also acknowledge marginalization of students in education. One of the discussed narratives remarked that “Race is class in the United States.” The researchers demonstrate how both students and teachers engage in deficit thinking and begin to examine its impact on student achievement. Understanding our own biases, the roots of those biases, and how they impact those around us is imperative for increasing student success and understanding.

Racism also occurs in subtle ways, and plays a critical role in attitude formation. Personal and group experiences of bias can occur frequently, and have profound influences on students. In coping with racism, some students give up and drop out of school. The research suggests that black students have higher dropout rates (Guo et al., 1996). It is becoming increasingly clear that there is a need to better support minority students, and that doing so in an arbitrary, demographically blind way will be meaningless and fundamentally flawed.

Higher Education Diversity Growth

The concept of how to best influence and impact student success is a vital question in light of the changing student demographics in the United States. Looking longitudinally, between the years of 1990 and 2000, the United Stated non-Hispanic white population increased by 3.4 percent, whereas the Hispanic population increased by 57.9 percent, and the black population by 16.2 percent. This data collected from the Census Bureau highlights a new, shifting student
demographic of students that are currently, or will be soon, attending academic institutions beyond high school. The Census Bureau suggests that these disparities are only likely to continue, as the population will continue to grow increasingly diverse with time. As such, it is important to consider how our attitudes about race are shaped, and the impact these attitudes have on the educational experience. The Census Bureau defined Higher Education as education beyond High School or G.E.D. achievement, including trade schools, Community Colleges, and four year colleges and universities.

In the postwar period in the United States, low-cost education was more easily accessible partially thanks to the G.I. Bill. The number of Higher Education students increased greatly. However, there has been a decrease in college student retention, with America dropping from first place in world rankings for college completion to 16th (Gordon, 2013). Economic cost is problematic for many families, but in low-income families, the problem correlates more strongly with academic achievement and ethnicity. Not only are students growing increasingly worried about rising costs and sinking test scores, they are also reporting feeling less connected and engaged academically, as well as to their academic institutions in general (Harris, 2008). Clearly, this is an issue of key concern, as student retention and engagement is vital for academic achievement. There needs to be a shift in assessment from teaching to the test to academic engagement and community building.

The link between diversity awareness, connectivity, and Higher Education profiles is a strong one. Herdon & Hirt (2004) were interested in researching the relationship between Black college students and their families. They found during an initial literature review that there was research on Black undergraduate students and Black families, but not much existing literature on
the integration and interaction of the two. They wanted to investigate what role families played in Black college student success, and how the students were impacted by family support. They examined successful African-American college students at predominantly White large universities as well as the members of those students’ families and found that support and role modeling played a major role in impacting student success.

The researchers started by pointing out the racial gap in higher education in the United States, citing Census statistics that showed that in 1990, only 10.7% of college students were African American (p. 489). They explored why this happen, suggesting that there is a lower enrollment rate of Black students immediately after high school when compared to White students (57.3% vs. 71.7%). Schools have made some efforts to better support better students and improve low enrollment. Participation in sports, and other team memberships was cited as a means of support, along with creating community via Learning Communities within residence halls.

They found that there were multiple themes in the interviews that were focused around three stages of education, precollege, early college, and late college. Most importantly, in order to success, Black students needed good support, a sense of cultural identity, and strong motivational factors from their communities. They need to feel that they are being judged without biases, and that their schools are welcoming places that are accepting of diversity. If overall bias can be reduced, minority students will be more likely to succeed academically and socially.

The evidence suggests that while the profile of Higher Education students in the United States is changing as a result of growing diversity and increasing educational accessibility, the
risk factors and negative perceptions that minority students face within Higher Education suggests a demand for better diversity awareness via increased institutional community building and connectedness.

This growing population will be impacted by existing institutional structure and ideals (Giddens, 1984), and unless those attitudes are modified to create a more supportive environment, the achievement gap will only widen for at-risk students. Given the multiple risk factors for minority students, it is clear that there is a need for better diversity awareness as promoted by the institution at large, and achieved via increased connectedness.

Community and Connectedness

Creating a connected, engaged community cannot occur via raw exposure. There needs to be action and intent towards institutional and student diversity awareness. As seen in the cyclical figure depicting institutional flow and forces, community and connectedness within Higher Education directly link to institutional and personal awareness. It is important to note that it is not enough to discuss diversity in terms of campus demographics. Hiraldo (2010) claim that the counter-story telling that occurs as a result of sharing individual experiences helps create and imbed non-white ideals into a biased system. Furthermore, this helps create a climate within higher education for persons of color to discuss their narratives and highlight experiences which may have been marginalizing.

This discussion, according to Hiraldo (2010), helps create an inclusive campus, rather than an institution that pays lip service to the idea of diversity without promoting any real change efforts or attitudes of multicultural acceptance. These narratives help support and highlight the
embeddedness and of racism as supported and perpetuated by agent behavior. However, it is through these efforts that educational organizations can better support students of color. Hiraldo (2010) suggests that these efforts may lead to improvements in terms of retention and achievement. This ties in with the growing problem of practice around issues of diversity in the classroom. Our educational systems may lead underrepresented and minority students to experience a drop in institutional connectivity due to implicit and explicit biases contained in the system. (Guo, Brooks-Gunn, & Harris, 1996). Without specific and intentional action focused on increasing institutional connectedness, diversity awareness will not change.

**Learning Communities**

One potential solution for increasing connectivity is the implementation of Learning Communities. Learning communities are groups of students who engage in group or cohort learning have multiple positive impacts on students. Lieberman and Miller (2008) define Learning Communities as “ongoing groups … who meet regularly for the purposes of increasing their own learning and that of their students”. Understanding how cohort learning and teaching via Learning Communities reduces biases in the classroom and impact students can help academic institutions support students and engage them. Learning Communities at the college level are something that have grown drastically over the last few years.

**Learning Community Benefits**

Learning Communities and cohort teaching at the college level is something that has grown drastically over the last few years. Learning communities have been found to be successful across multiple arenas. One of the first research studies to categorize the benefits of
learning communities was that of McLaughlin and Talbert (2006), who conducted a metastudy of 22 Michigan high schools, and categorized the qualities that led to the best student success. The researchers found that learning communities that embraced the idea of collaboration, and focused on active student participation and engagement were most successful. They suggested that these findings may also prove true at the college level.

Additionally, the researchers found that successful learning communities have some common characteristics. The learning communities are based on trust and openness, and meet regularly to establish this. They have a clear purpose, and favor open communication and active learning. They also have students engage in critical thinking, problem solving and collaboration in order to best learn and form connections to the material and with each other and the academic institution. Learning communities encourage growth, collaboration, and community building, both within the student group and among students, faculty, and the administration.

Grossman, Wineburg, and Woolworth (2001) also studied what makes learning communities successful. They surveyed an interdisciplinary program that joined an English and a History department at the college level. The researchers found that conflict in teaching and in the formation of student group identity was necessary and should be expected. They suggested that dealing with issues openly helps grow connections and made the program more successful. The researchers concluded that in depth discussion of sensitive issues made the groups more successful, and built greater group connection and cohesiveness. Students were forced outside their initial comfort zones, and as a result, learned more from the class in terms of material and also personal awareness.
Lenning and Ebbers (1999) pointed out that successful learning communities include active, engaged learning components. Active learning was seen as most successful when it extended outside the classroom to broader social and academic components. Learning Communities have also been linked to success in showing greater self-reported personal development, as well as a broader social tolerance and acceptance of student diversity. (Johnson and Johnson, 1990; Whitt, Edison, Pascarella, Terenzini, and Nora, 2001).

Learning communities also lead to greater student involvement and connection to both their peers and the school (Pascarella and Terenzini, 1991). This involvement is more likely to be positively correlated with student success and retention, as evidenced by Zhao and Kuh (2004). Zhao and Kuh (2004) investigated the relationship between learning community membership and student engagement. They collected data from first year students at 365 four-year college institutions. The researchers concluded that being enrolled in learning communities positively impacted student engagement, welfare and overall satisfaction with the academic institution.

Waldron & Yungbluth (2007) were interested in Learning Communities and their ability to facilitate student retention and academic success. They investigated how Learning Communities improve performance in the classroom by conducting a two year, quantitative, longitudinal study to assess student learning outcomes in Learning Communities. Assignment to Learning Communities and non-Learning Communities were established through prior academic testing. They wanted to assess student outcome measures of success and retention after the first semester was completed, and then after the first and second academic years were completed. The researchers examined retention, student performance, and credit completion, and found that students who participated in Learning Communities showed statistically significant differences
in comparison to non-Learning Community students, showing higher GPAs, credit completion rates, and retention.

This study examined how Learning Communities can facilitate student awareness and connectedness. The researchers pointed to the low academic success rates across the United States, and suggested that retention rates may be one explanation, as 20%-30% of first-year students do not enroll for a second year, and that this problem is compounded at schools with commuter populations, or high numbers of students who self-identify as a minority or as being from a lower socio-economic class. The conclusion was that commuter schools, such as community colleges, were more likely to show a drop in student senses of community and connectedness to the school and their peers.

The solution suggested by the researchers starts by pointing out the benefits of revising undergraduate education by increasing and improving communication. They claimed that when communication was linked to student coursework, and faculty participated on an interdisciplinary level, there was an increased sense of community, and the courses were more successful in achieving their learning outcomes. This suggests that the ability to seek help is critical to Learning Community success.

Faculty members had partial academic freedom to teach courses, but all Learning Communities had a unified set of objectives. The objectives were that the courses would contain shared material/assignments, that the students would be supported and instructed by librarians and technological support, that the teaching teams (composed of two faculty members, a librarian, a technology support person, an academic advisor, and a university learning
coordinator) would meet to discuss progress and help identify at risk students, and that students would be better informed about the range of student resources available to them.

The researchers concluded that Learning Communities led to persistent student gains, and positive outcomes in terms of student success, student experience, and communication environment. The intensive model used was innovative in its application with commuter students, by given them a sense of connection, integration and community that they might have otherwise not experienced.

Tinto and Goodsell (1993) investigated the experiences of first year college students who participated in learning communities, termed Freshman Interest Groups (FIGs). These interest groups often linked courses together in cluster classes where the students attended multiple classes together, and worked as a learning cohort. They found that students who were enrolled in FIGs were more likely to earn higher grades than students not in FIGs. Additionally, students in FIGs were more likely to seek help, more likely to connect to other students in the cohort, and more likely to show greater persistence in goal achievement, both academically as well as socially.

Learning Communities have also been shown to increase critical thinking. Tinto and Russo (1994) investigated the benefits of learning communities at the community college level. This research is of particular interest, as community colleges, especially urban ones, historically have high diversity in terms of their student populations. Tinto and Russo (1994) found that learning community students created independent, peer-based groups of support that they utilized both in and out of the classroom. The students were also more involved in college activities. Most importantly, learning communities that focused on critical thinking and diversity discussion
were more likely to contain students that learned actively. These students were more engaged in the classroom, more actively involved in the learning process, and less likely to view themselves as being passive recipients of information who were not responsible for their learning and retention of information.

Other organizations have applied Learning Communities with a great deal of success. The Posse Foundation is one of them. The Posse Foundation picks students that show leadership qualities such as intelligence, resilience, and creativity, but who, because of various factors, have slightly lower SAT scores, and help them into good colleges. The students enter in as a cohort and work together throughout their education. The students are grouped into cohorts of 10 students from the same city, and the organization has approximately 40 colleges participating in the program. The combined median reading and math SAT score of Posse Scholar’s is 1050, whereas the comparative median at the participating colleges ranges from 1210 to 1475. However, with the support of the cohort, the students thrive academically and socially. Posse Scholars have a graduation rate of 90%, with half of the scholars on the dean’s list and a quarter graduating with academic honors. Additionally, 80% of Posse Scholars show leadership efforts, by founding or leading groups on campus.

The efforts of the Posse Foundation provide additional support for the idea that Learning Communities can aid in retention and student success, even for students that begin their college journey academically underprepared. This suggests that strong community support can critically aid in student learning. The concept of community support, along with efforts to acknowledge and discuss diversity issues, help serve as a theoretical framework that weaves throughout the
literature, and helps provide a deeper understanding of the factors that impact student success at the college level.

*Learning Communities and Risk Factors*

In discussing student success, it is important to examine areas of potential risk and student demographics. Shifting student demographics seem to suggest a need to increase support, community building, and success strategies in at risk populations. We know that grouping students by ability has the potential to negatively impact student learning (Kerckhoff, 1993). Students, especially at the community college level, are more likely to be separated by abilities, as community colleges often have both college level and developmental courses. Kerckhoff suggests that engaging in ability grouping may create inequalities within the community and heighten existing inequalities. These inequalities may support implicitly held biases.

Additionally, student backgrounds may negatively impact performance, as students may develop a “failure identity” (Gay et al., 1993), and become disengaged. Students may also be hampered by their educational backgrounds, and have a lack of critical skills stemming from middle and high school education. This lack of a solid background negatively impacts performance in college courses later on in life, and also hampers the students in terms of self-perception, especially self-esteem, and internal agency. Students may develop a sense of learned helplessness and be less able to engage in self-efficacy, which will hamper communication and increase the barriers to their academic success.

Similarity issues in terms of perception of others and academic success are vital in terms of building a successful Learning Community, as students need to connect with each other on
intellectual, social and emotional levels in order for the Learning Community to succeed.

Waldron & Yungbluth (2007) claimed that communication on multiple levels (student to student, student to faculty, and student to academic resources) was the key factor that made their Learning Communities successful. As such, understanding the factors that increase community building is essential. The hope is that eliminating implicit biases will make it easier for minority students to connect in the classroom, seek help, and succeed academically.

*Application to Community Colleges*

While general research exploration gives insight into the broader benefits of Learning Communities, as the proposed research is taking place as a community college in the Northeast, it is important to examine how Learning Communities specifically impact community college structure and students. Vishner, Schneider, Wathington, and Collado, (2010) examined the impact and efficacy of Learning Communities at six community colleges. The findings were significant, showing a number of positive benefits. Firstly, students in Learning Communities showed better retention and degree completion. Specifically, more students in the learning communities program obtained a degree (35.9 percent) over students in a control group (31.3 percent). Learning Communities also improved overall course completion, course placement, and credit accumulation.

Additionally, Learning Communities have also been found to increase student success at the community college level by providing student-focused courses that encourage collaboration, community, diversity education, and interdisciplinary study (Tinto, 2000). They foster student connections to each other, as well as to faculty and staff. Students were increasingly able to seek support and engage in deeper critical thinking. This is especially important on a commuter
campus, where students may feel the loss of more traditional forms of college connection and engagement.

Definition of Key Terms

Higher Education: education beyond High School or G.E.D. achievement, including trade schools, Community Colleges, and four year colleges and universities.

Learning Communities: Lieberman & Miller (2008) define Learning Communities as “ongoing groups … who meet regularly for the purposes of increasing their own learning and that of their students” (p.3).

Diversity awareness: Individual and group cultural and perceptual knowledge, awareness and attitudes around issues of culture, identity, personal and group characteristics, which may be shaped by social and cultural forces (Unzueta, Knowles, & Ho, 2012). These attitudes and knowledge may be implicit (Banaji, 2001), as well as culturally and socially developed and maintained (Giddens, 1984; Solorzano, 1998).

Diversity education: Tinto’s (1975) model of social and academic integration is evidence that integration and community building benefits individuals academically and socially. This is expanded to the idea of Learning Communities by Attwood (2011), who found that situated, interactive learning in communities of practice can help reduce student biases and help students form a better self-concept, as well as feel more connected, engaged, and accepted at the school.

Implicit bias: As suggested by Banaji (2001), implicit biases are individually-held negative cognitive associations formed as a result of societal attitudes and held subconsciously.
These biases are held by all individuals towards social groups, individuals within those groups, and categories. Furthermore, implicit biases are malleable and can be changed through experience (Dunham, Baron, & Banaji, 2007).

Structuration theory: The theory highlights the dynamic interactions between the institutional influence and forces and the actor-freshman, as well as allowing exploration of the extent to which domination, signification, or legitimization impact perceptual development.

Agent: A critical part of structuration theory. An agent is a person who’s thoughts/attitudes/values and behaviors are reinforced by institutional structure. The agent helps maintain and shape the structure.

Literature Review Conclusions

The literature related to diversity awareness, United States Higher Education Diversity Profile, and Learning Communities and student connectedness suggests a need for better integration and investigation of diversity awareness in Learning Communities. The evidence shows that implicit biases are malleable, and are a function of institutionalized attitudes around diversity awareness, as well as institutional Higher Educational profiles. This may occur because of subtle implicit bias systematic in academic structures, as supported by Gidden’s (1984) structuration theory. Additionally, structured bias is having profound effects in terms of minority student connectedness and achievement. The findings shown by the literature suggest significant race effects in terms of academic performance, especially when students feel marginalized.

One possible solution offered by the literature was Learning Communities as a teaching
model and method of practice, which appears to lead to greater levels of student achievement and retention. Additionally, students appear more connected to the courses, to each other, and to the institution as a whole when this model is utilized. Learning Communities have been used in multiple disciplines independently, and interdisciplinary as well, which suggest them to be a positive model in guiding students towards their academic goals.

Building strong Learning Communities that acknowledge these factors and seek to correct them by increasing communication, diversity discussion, and community awareness may help minimize the current achievement gap and lead to an increase sense of community. It seems apparent, based on the literature, that these are problems that will not go away by themselves, and, if left unchecked, could lead to widespread inequities in the future. There are already existing race and gender gaps in education which are problematic and may cause underperformance, higher dropout rates in certain fields, as well as a number of mental health problems like lowered self-esteem, increased stress, depression, and lowered perceived competence.

As a culture, it is importance to consider the impact these issues might have, but more importantly, it is important to investigate diversity awareness is implemented, and the effect that diversity awareness in education has on students. As shown in the literature, the best student success and diversity awareness occurred when faculty efforts were combined with student support services as well as substantial administrative support, both in terms of funding and emotional encouragement.

Learning Communities appear to support students academically and socially. An examination of the literature shows this. However, the literature has not yet seemed to establish
that Learning Communities help reduce stereotype threat by impacting diversity awareness biases that students may hold. This needs to be addressed.

Gaps in the Literature

The literature suggested a need for a theoretical and research shift in how this topic is conceptualized and research. Specifically, in examining diversity education and bias perception and awareness, the research cannot focus primarily on overt, explicit biases in the classroom, but needs to explore how implicit biases can be made more transparent and awareness can be increased at academic institutions in order to best benefit underrepresented students. The literature suggests that implicit biases are malleable and can be changed through experience (Dunham, Baron, & Banaji, 2007). However, the current research is limited because there is a gap in the literature that fails to connect the theories. Specifically, there is little to no literature investigating whether Learning Communities benefit students by increasing student perceptual awareness.

Research on this integrated topic is needed in order to better advance theory and practice. This is supported by Creswell (2012), who points out that convincing problem statements need to be grounded in a clear need for research supported by statistical data. (p. 65). This study was specifically designed with two goals in mind: a. to add to the existing literature on the benefits of diversity education within Learning Communities b. to help connect the gap between Learning Community benefits and diversity education with implicit bias awareness and perception. Additionally, the research question also potentially added to the existing knowledge of the theoretical framework by examining if diversity awareness can be impacted through Learning Community pedagogy. Chapter three gives an in depth methodological discussion to the research
plan, design, data collection, and data analysis. Additionally, method validity and reliability are discussed.
Chapter 3

As this study involved a mixed-method design, a pragmatic integrative approach was used as a research paradigm. The data collection plan had three phases, two of which were qualitative and one of which was quantitative. This chapter is divided into two parts. The first part details quantitative data collection, analysis, and experimental validity and reliability. The second part covers the qualitative data collection and analysis, as well as experimental trustworthiness. Lastly, researcher positionality is discussed.

Research Tradition

This research used an integrative mixed-methods approach. This approach used a pluralistic philosophy that allowed more complex insight into the internal structure and workings of the data. It capitalized upon the strength of both quantitative and qualitative methodology and helped reduce individual method biases by allowing the data to complement each other throughout the phases (Greene, 2007). Specifically, this approach allowed a combination of quantitative bias perception and awareness to be viewed along with qualitative participant reflection and experiences. The mixed-method approach can be seen as both a methodology and a philosophical worldview in itself (Tashakkori & Teddlie, 1998).

Mixed methods also have practical assumptions rooted in their usage. They assume that qualitative participant experience and quantitative measures provide a larger picture model which help researchers better assess complex societal structural components. It also allows a practical overview that applies the data to a more encompassing world view that draws upon hidden structure (Creswell & Clark, 2011). A mixed-method approach also uses a more integrative philosophical tradition that suggests that, despite objections from purists, there are
clear connections between quantitative and qualitative methods that provide a more dynamic, pragmatic approach that gives insight into conceptual structure and behavior.

While viewing a mixed methods approach in terms of research traditions and paradigms can be tricky (Hall, 2012), the conducted research utilized a single paradigm approach to mixed methods. Specifically, Morgan (2007) advocates for using pragmatism as a research tradition and stance for mixed-methods designs. This is because pragmatism takes a practical stance towards understanding complex structure and solving real world practical problems over an abstract theoretical approach about the existence and nature of knowledge. Hall (2012) suggests that pragmatism allows the researcher to better utilize mixed method research designs to its full utility. Morgan (2007) adds that a pragmatic approach to mixed methods allows for a treatment of experimental paradigms that encompasses action, behavior, attitudes, and morals. This value based concept is similar to the paradigm approach suggested by Kuhn (1970). Additionally, this broader approach allows methodological encompassing assessment that can give insight into broader structure and concepts, which relates back to the theoretical structuration lens established by Giddens (1984). As such, the role of the researcher and the methods design is to unobtrusively, and in a semi-structured manner, assess participant bias, describe and uncover participant experience, and seek convergence between the two.

Research Design

A descriptive Case Study (Creswell, 2012) was used in order to explore the dynamic relationship between institutional structure and Learning Community seminar enrollment. Specifically, this design investigated the role these factors had in shaping diversity awareness for
first semester College freshman at a US public community college. This inductive mixed-method design included three phases:

1. Phase one: College document review of Learning Community core values, assessment, and mission statements.
2. Phase two: Quantitative reaction based IAT survey, which occurred at the end of the semester.
3. Phase three: Semi-structured small group interviews with Learning Community seminar students, which occurred at the end of the semester.

This design was used because the literature (as demonstrated in Chapter 2) suggested both a strong potential relationship between Learning Community education and student benefits, as well as demonstrated that implicit biases are part of diversity awareness and can be shaped by Learning Community experiences. As such, the research questions were built upon the idea that Learning Communities are an effective method for diversity education and awareness for first semester, full time students enrolled in the learning communities. The research design as a case group was specifically chosen as the question of interest involved the impact of Learning Communities on student diversity awareness.

The design was run as a case study, as it was limited to individuals enrolled in a Learning Community seminar, and not all students enrolled at the college. This experiment used a single group of first semester full time freshman in a required freshman seminar. Students self-selected which seminar to take, however, all freshmen must take a seminar and were given a list of objectives that were consistent across all seminars, including diversity and inclusivity. This experiment was run as a single case study, as there were no other courses that could have served
as a comparable baseline. This is because there were no other courses that contain only first semester freshman. Students outside the freshman seminars could be from a range of college experiences and time at the school. Additionally, students outside the seminars also may not be full time students. Practical limitations in terms of accessibility and college permission constrained data collection to a single Learning Community seminar.

Methodologically, all freshman seminars have a shared mission statement and diversity focus as one of the key themes and requirements for a freshman seminar. For practicality and feasibility reasons, a single group was used. However, this did have potential limitations on generalizability. Students within the single group may have been quantitatively different than other groups, which could have affected the application of the results. However, the researcher believes that as the students were first semester students who were tested for prior psychological knowledge and experience, the limitations were potentially mitigated partially in their effects. Additionally, the case study design has the advantage of being able to determine the effects integrative effects of participant experience along with participant bias awareness.

Another concern of the single group design is that students that enrolled in these specific Learning Communities may have a different experience than other students in other Learning Communities, and that any change may have been due to teacher efficacy and individual pedagogy rather than Learning Communities themselves. This concern is valid theoretically; however, the Learning Communities as a model were created and designed around universal themes of inclusivity and diversity acceptance. Additionally, teachers workshop and train in groups to plan the communities via Professional Development before teaching for the first time. New teachers are also mentored to make Learning Community experience similar across teachers
and topics. Learning Community efforts are supported by administration and funding is set aside for continued professional development and workshopping for teacher pedagogy within Learning Communities throughout the year. Therefore, while there may be individual teacher variance, initial and continuing efforts are made to help ensure standardization. Future research could examine a within groups effect of Learning Communities to control for the factor of teacher variability, but that is beyond the scope of the current research.

This single group case study does have potential threats to internal validity. One such concern is that of mortality and the threat to experimental power. This is an experimental issue, as the case study design was limited in population. However, the use of a mixed-methods design helped give participant data wider application and generalizability. Secondly, the study methods were noninvasive and of low cost to the participants to participate. The study was web-based, which helped eliminate time and travel concerns, and gave participants easy access to the study. The study was also short, which helped mitigate experimental fatigue and time cost to the participants. Lastly, the study investigated diversity issues, which were of potential interest to the participants, as it was a major topic in a class they are enrolled in.

Another potential threat to validity is that participants might have become familiar with the outcome measures and have been able to remember their responses for later tests. The IAT is a test that encourages fast implicit responses. If participants responded too slowly, prompts appeared to warn them of this fact. As such, participant encoding of experimental measures was lessened. Lastly, visual stimuli were randomized, which helped mitigate participant abilities to remember stimuli in a set presented order. The IAT was randomized in block trials, which also helped mitigate instrumentation threats.
One threat of concern to validity was participant history in terms of time passing and third variable event occurrence that may have impacted participant judgment and performance. The Learning Community experience was an intended event that occurred in terms of time passing and student experience that impacted student implicit attitudes. However, other unintentional events may have occurred. If the event was a large scale group one that impacted students in the seminar at large, the class discussed it and students were counseled by the professor and the college. Individual events may have occurred to students, but it was the hope of the experimenter that the student could express them in class or in private to the professor. The professor in freshman seminars served as the advisor and mentor to the students, so student disclosure was potentially increasingly likely in comparison to stand alone subject classes where the professor was not involved with the students on a personal level to the same extent. Additionally, while individual events may have occurred to individual students, extreme outlier data was considered carefully. Analyses were conducted with and without that outlier data to examine the impact. Lastly, a single student variance would be mitigated by the greater N in this experiment.

Lastly, participant growth hopefully occurred and was a desired experimental outcome. The experimental prediction was that students would become wiser and more experienced as a result of their Learning Community experiences, and as a result, have a resulting change in their implicit biases. However, one threat was that student maturation may have occurred as a result of external experiences and influence. While this was a threat that could not be completely mitigated, students were given a post-hoc, maturation validity check on diversity awareness and life experiences that assessed whether other external events in their lives occurred that may have impacted their beliefs, and if so, to what extent. These questions were self-report, but potentially
helped group any students that may have been a threat to internal validity due to maturation. The data was then assessed with and without this group, to see if there was a quantitative difference.

**Design**

This section of the chapter discusses the Research Site and Design in full, including criteria and rational for the selected Participant Population, as well as qualitative and quantitative trustworthiness. Site demographics are given, as well as Data Analysis plan and protection of human participants. The research was run within a Learning Community seminar for first-semester, full time Higher Education college students. The Learning Community was held at a large, diverse, Community College in the Northeast United States. This population aligns well with the theoretical framework and literature review, as it meets the criteria for a diverse, multi-cultural, at-risk population. A purposeful sample of the population was measured, as they have limited psychology background or awareness of diversity training and education. As such, they served as a good baseline to examine the positive benefits and effects of Learning Communities on their diversity awareness, perception, and experiences. This mixed methods case study examined institutional materials, student implicit bias, and student diversity experiences. Scale reliability was assessed, and in vivo coding, along with multiple coders was used to help ensure quantitative and qualitative trustworthiness.

**Research Site**

The study site for this experiment was a Community College in the northeast United States. This site was chosen because of the wide spread implementation of Learning Communities at the college. These courses were required for all first semester, full-time students seeking an associate’s degree. The implementation of Learning Communities was accomplished
partially through a national grant, which allowed the school the means to implement the courses on multiple levels: curriculum restructuring, as well as pedagogical approaches. All Learning Communities share common mission and vision statements of diversity acceptance and inclusivity. Learning Communities were implemented partially to better meet the needs of an increasingly diverse large student population of 14,000 students. In this population, only thirty-seven percent of the students self-report as “White, Non-Hispanic.” As the research questions investigated the effects of Learning Communities on Diversity Awareness, it made sense to conduct the experiment at a site that both has widely implemented Learning Communities and is highly diverse.

*Site Criteria and Rationale*

This research select was selected as it included a diverse population of Higher Education students that allowed the research to better investigate diversity experience and awareness within the selected population. Secondly, as the Community College is a commuter school, with students who place into both developmental and college level courses, the population gave a wide spectrum of student achievement and background. As Table 1 indicates, the demographics collected from the student body showed a spread in terms of racial diversity, as well as a good gender balance.

**Table 1: Demographic Site Information (Institutional Effectiveness Data: Fall 2012)**

<table>
<thead>
<tr>
<th>Category</th>
<th>Percentage of Population</th>
</tr>
</thead>
<tbody>
<tr>
<td>African-American</td>
<td>28</td>
</tr>
<tr>
<td>Hispanic</td>
<td>22</td>
</tr>
<tr>
<td>White</td>
<td>33</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------</td>
<td>-------</td>
</tr>
<tr>
<td>Asian</td>
<td>12</td>
</tr>
<tr>
<td>Overall Students of Color</td>
<td>67</td>
</tr>
<tr>
<td>Male</td>
<td>43</td>
</tr>
<tr>
<td>Female</td>
<td>57</td>
</tr>
</tbody>
</table>

*Participants*

The research participants in this study were first semester, full-time freshman enrolled in the experimenter’s Learning Community Seminars. While all students must take a seminar, students self-selected into the specific seminar they chose to enroll in. As the college is a diverse institution, and the seminars are mandatory, student characteristics were representative of the college population as a whole. The cap across the seminars was 22 students. All students enrolled in the Seminar were asked to participate in this experiment. This sampling strategy helped address the research questions, as students enrolled in the seminars were new to college, and as such, unlikely to have taken prior classes in Behavioral Sciences or Education. Therefore, they were a more representative baseline of initial bias than those that have had their attitudes changed by their educational experiences. As random sampling was not possible, detailed participant demographics were collected to ensure methodological and result generalizability.

All participants in the study were first semester, full time students at a large urban community college in the Northeast. Across the phases of data collection, 21 participants consented to participate in this experiment. 15 of the participants were female, and 6 were male. Ten of the participants identified as White, 6 as Black, 3 as Latino, 1 as Asian, and 1 as Native American. The participants ranged in age from 18-37, with a mean age of 21.5 and a median age of 20. This matched well with the college demographics, as 28% of the students at the college self-identified as African American, and 28.6% of the participants in this study self-identified as African American. The overall percentage of Students of Color at the college was 67%, and the
overall percentage of Students of Color who participated in this study was 52.4%. These numbers suggest that the participant population for this case study was a fairly diverse sample that was representative of the broader college demographics.

*Sampling Rationale*

Participants were purposefully sampled. Purpose sampling was used as a means to select the site, as the experimenter has been working in the Behavioral Science department at the college for the past five years. Although the college has a population of 4,577 full-time students, this number accounts for students in certificate programs, students in their second year of study, and students who are enrolled in English as a Second Language courses and are not yet English proficient for college courses. As such, the target population of this study was Learning Community Seminar Students who were English proficient, first semester, full time, and who were degree seeking. Eliminating English as a Second Language Students, second year students, certificate students, and full time, non-degree seeking students yielded a target population of 728. For feasibility reasons, it was not currently practical to sample across all Learning Community Students. Discussion with the Dean of Institutional Effectiveness found that the college would be amenable to such research in the future, however, they want to see that the time, money, and imposition on other faculty is justified by the results of this proposed study. Therefore, sampling was practically constrained to the researcher’s Learning Community Seminars. However, it was possible to obtain sufficient experimental power using the practical population.

As all students in the population must be enrolled in a Learning Community Seminar, student demographics in the seminars should match target population demographics. However, this was a potential validity concern, and as such, student demographic information were be
collected to ensure sampling validity and reliability. Although convenience sampling was not ideal and was a potential study weakness, it was practically necessary due to internal college constraints. A Learning Community Seminar college-wide study may be potentially possible in the future, but it was not feasible at the time. However, as discussed above, the participant demographics match fairly well with the overall college demographics.

*Power Analysis*

For the quantitative methods, assuming a sample population of 22, an effect size at Cohen’s $d = 0.5$, and using a probability level of 0.05, a sample of 20 participants will achieve a power of 0.80. This power analysis was conducted using the RaoSoft Sample Size Calculator. While increasing the sample size would increase the experimental power, this was not feasible in the current experiment, as sample size was limited to participant enrollment in Learning Community Seminars.

*Protection of Human Participants*

The safety and welfare of the participants in this experiment was of paramount important. In keeping with ethical principles of research, there was a complete lack of coercion in this experiment. Phase one did not involve human participants. For the qualitative measure in Phase two, participation was voluntary and anonymous. The experimenter did not know which of the students chose to participate. This was essential, as it removed any power or pressure concerns that students may have faced by having a professor as an experimenter as well. Participants were also fully informed of the proceedings and told that they could stop the experiment at any point in time. No data was published with any identifying student characteristics. For Phase three,
participants were again told their participation was voluntary, they had the freedom to leave, and that any statements they gave would not be published with identifying information.

Quantitative Measures

For the quantitative IAT measures, participants may have reacted to the content of the experiment, as it involved racial categorization. Participants were made aware of this fact at the start of the experiment. Participants were told that implicit bias is a reflection of societal attitudes, and that this did not necessarily reflect on their own explicitly held beliefs and subsequent behaviors. All terms were explained.

Participants needed to also feel that they were compensated for the experiment. The compensation in this experiment was in the form of knowledge. In addition to course discussion, the debriefing fully explained the experiment, highlighted the significance and importance of the literature, and provided citations and contact information should the participant have wanted to learn more.

Additionally, in order to remove potential participant stress or experimental effects, experimenter contact information was given (email, phone number, and office number). Secondly, links to BHCC counseling services was given, in the unlikely chance that any students felt psychological effects from the experiment and wished to discuss it with a secondary support.

Concerns about Bias

One potential issue was that of challenges to the validity of the findings in terms of researcher relationship to the problem of practice, participants, or findings. As the data was
based on numerical reaction time change, experimenter bias in terms of interpretation was lowered. Secondly, as participants could not be identified with their data, experimenter relationship bias in terms of participants was also lowered. Whatever feelings the experimenter may have towards individual students could not be associated with the participant data.

Researcher bias due to positionality, proximity, and praxis was also of concern. As the area of research was one of subject interest to the researcher, this experiment was specifically designed as a quantitative one, using externally validated and reliable methods of instrumentation that used participant reaction time as an experimental measure. This design helped reduce researcher subjectivity towards the data. Additionally, using a qualitative design to investigate implicit bias awareness was experimentally impractical, as it was impossible to examine unconscious bias using self-reported data. However, semi-structured qualitative interviews were conducted to give further insight into participant thoughts and experiences.

Type of Data

As the data collected was in terms of participant reaction time, this was a ratio measurement, as it used time as a scale. Individual reaction time will always be greater than zero, but the test is conceptualized around a zero point in time. Follow up nominal demographic information was collected to ensure study validity and generalizability. In order to collect this data, reaction time judgments were assessed from the college participants enrolled in this Learning Community. There were four group pairings (White-Good, White-Bad, Black-Good, Black-Bad). As participants saw a face, and then categorized the word, the reaction time was based on participant word judgments. On average, people judge white good and black bad faster than white bad, black good (Greenwald, McGhee, & Schwartz, 1998). The research hypothesis
predicted that Learning Communities will have a positive impact of student diversity awareness in terms of implicit bias.

**Instrument**

The instrument used in this study was the Implicit Associations Test (IAT). The IAT measures participant strength of cognitive implicit associations between facial stimuli concepts (There are many IAT stimuli, but for this experiment, the race IAT stimuli was used: Black faces and White faces) and word judgment evaluations (categorization of words as Good or Bad). The IAT measures participant reaction time to facial stimuli and words and assesses unconscious (implicit) attitudes that individuals may be unaware of or unwilling to report. Facial Stimuli and data sets are openly sourced and available through Project Implicit (www.ProjectImplicit.net), and created by Nosek, Hansen, Devos, Lindner, Ratliff (Ranganath), Smith, Olson, Chugh, Greenwald & Banaji (2007) and are on the website for public use. The image stimuli were 6 black (3 male, 3 female) and 6 white (3 male, 3 female) faces that have been cropped at the forehead and chin. The faces were taken from the IAT “race attitude” task. All images were small and were designed to be seen by participants in rapid judgment tasks. As the research question assessed awareness of student implicit bias, using the implicit association test was directly related.

**Instrument Validity and Reliability**

Castillo, Brossart, Reyes, Conoley, & Phoummarath (2007) used the IAT in a test-retest format to assess the impact of multicultural training on implicit biases. The authors found that the multicultural training course significantly reduced bias for test-retest measures for
participants. The test retest reliability was found to have a convergent reliability of $r=0.70$. Secondly, Cunningham, Preacher, & Banaji (2001) examined IAT validity and stability using post-retest measures that were a month apart. They used a diverse population of undergraduates, similar to the proposed research. They found that the IAT as a test-retest measure had a Cronbach's alpha of 0.78. The IAT was found to have strong test reliability. To examine validity, the researchers performed a factor analysis, and found that the measures had strong convergent validity, with all of the latent variable correlations reported as significant and greater than the estimated correlational mean of $r=0.63$.

Lastly, when examining implicit bias among undergraduates taking an introductory psychology course for the first time, McConnell and Leibold (2001) found evidence for the predictive validity of the IAT. Specifically, they found that IAT measured attitudes predicted participants coded nonverbal behavior towards Black and White experimenters. The measure in this study had a reliability of $\alpha = 0.89$, with a significant correlation of $r=0.51$, $p<0.001$ as an indicator of IAT predictive validity. The evidence from these studies suggests that the IAT as an instrument is a strong measure of implicit attitudes in terms of instrument reliability and validity. Overall, the IAT seems to be an established benchmark instrument for implicit cognitive reaction time assessment in cognitive psychology.

**Data Collection**

The IAT visual displays and reaction time responses, as well as participant demographic responses were programmed using Python. This webpage was sent to students enrolled in the LCS. The webpage was hosted on a private server, in a folder that only the researcher has the
password to. Data was analyzed in excel, to aggregate the data and then analyzed through SPSS. Data was kept anonymous and stored on the researcher’s work computer.

**Experimental Procedure**

In conducting this experiment, student rights were of paramount important and the researcher complied with all IRB standards for research. Students enrolled in the selected Learning Communities were asked to participate in a short (About twenty minute) survey at the end of the semester, after final grades were submitted for the course. Students were told that the study was voluntary and completely confidential. There was no pressure from the investigator on the students to participate or ethical conflict due to students worried about their grade as a result of any lack of participation, as the grades were already submitted. Students were given a website URL and asked to complete the study outside of class. The qualitative interviews were conducted during the last scheduled course of the semester, after students had been informed of final grade submission. No names were given, as participants were assigned a participant number based on the order in which they accessed the website. Students were asked for basic demographic information (Gender, Race, and Age), but they had the option to omit questions if they did not feel comfortable answering any of them. Information was saved in a password protected file on the researcher’s work computer.

In the experiment, students were told that the experiment was investigating implicit bias. The term implicit bias was explained, as well as the intent and design of the test. Students were given facial primes (Black and White) and asked to classify them by race. Students were also given concept words (Such as love or agony) and asked to classify them as good or bad. Students were informed that their reaction time will be recorded. At the end of the test, students were
thanked and debriefed. The debriefing reminded students that implicit attitudes did not imply explicit attitudes or behavior, and that implicit attitudes just meant that they, like many individuals, are a product of societal culture and attitude internalization. The debriefing was done electronically, through the webpage.

Data Preparation

When students take the IAT, they were assigned a random identifying number to label their data while protecting participant identification and privacy. In assessing the IAT reaction time data, the initial participant response time was recorded by a computer, in milliseconds, using Python as a programming language to store a data file. This data file was uploaded into Excel, which helped sort, screen, and clean the data file, as well as created a final data file that was uploaded into SPSS for analysis. In terms of data cleaning, incorrect participant responses were eliminated, as they did not reflect an accurate implicit reaction. Theoretically, while there may be a range of participant response time scores, Greenwald, McGhee, and Schwartz (1998), in their seminar IAT study defined an acceptable response time score range as any score between 300 m/s and 3,000 m/s. Any other score was treated as an outlier and deleted. As this study seemed to be the IAT standard for dealing with outliers, their data procedure in terms of design and data analysis was followed.

Data Transformation

The standard IAT coding procedure suggested that taking the log transformation of the IAT mean data in SPSS helped improve the data symmetry for reaction time latency distributions by shrinking the distribution upper tail and helping to improve the central tendency estimates of the data. This transformation has traditionally been used in IAT analysis. (Greenwald, Nosek, &
Banaji, 2003). Once the data was clean, it was collapsed into participant mean scores for congruent and non-congruent categories (congruent = White Good and Black Bad, non-congruent = Black Good and White Bad). Overall mean descriptive category scores were then calculated. This study used a single case study (participants enrolled in Learning Communities), with quantitative reaction time measure.

D-score

These mean congruent and non-congruent categories were collapsed into a D-score, or difference score, which was seen as a more robust analysis within a single group (Greenwald, Nosek, & Banaji, 2003). The D measure divided the overall difference between individual test block means by the standard deviation for all response latencies for the test blocks. This adjustment gave an overall more robust IAT score, which ranged from negative two to positive two, and allowed for a better mean difference adjustment to assess underlying experimental variability. This calculation is mathematically similar to Cohen’s d, in that it uses division of mean differences by a standard deviation, and helps assess IAT effect size.

This new scoring mechanism was found to be more robust and better correlated with participant self-reported behavioral measures, as well as to have better internal consistency and test reliability, when compared to the previously used scoring mechanism suggested by Greenwald et al (1998). This D-score was used within the IAT regression analysis.

In order to assess the research question, the researcher conducted a regression analysis to assess whether participant demographic variables impacted participant implicit biases. According to Muijs (2011), this regression analysis allows for a quantitative statistical process that gives insight into the relationship between participant demographics and IAT D-score. It allowed a
model of fit in the IAT data by demographic information. This multivariate regression also
allowed a determinance of overall fit of the model, and the relative contribution and addition of
each of the demographic predictors to the total variance. The computed D-score gave insight into
the level of implicit bias of the class at that time, whereas the multivariate model allowed
exploration of the variance and relationships within the data model.

Once the data was cleaned and entered into SPSS, and the analysis had been computed
using the linear regression dialogue box, with the three predictors within the model, and implicit
D-score as a dependent variable, the results showed three tables: a model summary, ANOVA,
and estimated model coefficients. The model summary gave the $R$, $R^2$, adjusted $R^2$, and the
standard error of the estimate. This allowed a determination of how well the model fits the data,
using the adjusted value. For the second table, the ANOVA table, the $F$-ratio allowed evaluation
of whether the model is a good fit, and gives a p-value. If the p-value was less than or equal to
the alpha of 0.05, the predictor variables significantly predicted the dependent variable. Lastly,
the unstandardized coefficient table suggested how much the dependent variable varied with
each independent variable, when the other independent variables were constant. The table gave
the coefficient, and tested whether the value is equal to zero, as reported by the corresponding t-
value and p-value in the table.

Before conducting the multivariate regression, I needed to make sure that the
assumptions of the test are met. They were as follows:

A1: The dependent variable must be continuous: the dependent variable is continuous (reaction
time).
A2: There is more than one predictor variable: there are three (Age, Race, and Gender).

All other assumptions of multivariate regression analysis were checked within SPSS. These assumptions were:

1. Independence of residuals: Assessed via the Durbin-Watson statistic
2. There needed to be a linear relationship between each of the variables: Assessed via scatterplots/partial regression plots. If this assumption was violated, the data was transformed, or a non-linear regression was run.
3. Homoscedasticity (variances along the line of best fit): Assessed via a plot of the residuals against the unstandardized predicted values.
4. Lack of multicollinearity (when the predictors are highly correlated): Correlation coefficients were inspected.
5. Lack of significant outliers: Assessed using casewise diagnostics
6. Residuals are normally distributed: Assessed with a histogram of the residuals.

Experimental Steps:

1) Graphical checking of Multivariate assumptions, as discussed above.

2) Transformation of data if needed: Log mean scores in SPSS to transform the data.

3) Conducted multivariate analysis of IAT data, using Age, Gender, and Race as predictor variables.
4) Interpreted the scores based on adjusted $R^2$ for model fit, $F$-ratio and p-value for goodness of fit, and the unstandardized coefficient, t-value, and p-value to determine individual variance for each independent variable.

5) Calculated Cronbach’s alpha to check IAT scale internal reliability.

6) Examined the standardized regression coefficient (beta values) to determine effect size.

Quantitative Trustworthiness

Validity

In terms of content validity, the pictures were pre-tested and validated by the Project Implicit team, and were readily available for testing. The stimuli used have been found to be easily identifiable as the racial categories they are meant to represent, and are also strongly correlated with posttest explicit measures of behaviors and attitudes (Hofmann, Gawronski, Gschwender, Le, & Schmitt, 2005). The IAT stimuli were drawn from the facial stimuli provided by the open-source project, Project Implicit.

Greenwald, Banaji, Rudman, Farnham, Nosek, and Mellott (2002) found that the IAT contained strong predicted consistency patterns. In order to increase experimental validity and minimize potential order effects of stimuli, the presentation of stimuli were randomly generated for each participant to help remove any learning and performance biases on the task (as suggested by Greenwald et al., 1998).

There was little threat to internal validity for data-collector bias, as the design was counterbalanced, and the experiment was done remotely through the web. Additionally, the data
was reaction-time based, which increased objectivity in terms of data interpretation. While minor location threats may have occurred, all participants participated wherever was most convenient for them, and as this was being done across multiple participants, individual differences due to location averaged out in the data.

In terms of performance validity, Greenwald et al (1998) found that designing the study so that the first two trial blocks of data are coded and recorded as practice data help remove participant inaccuracies and increase test validity. This design was replicated in this experiment.

One validity concern was participant experience. Participants who have prior psych knowledge or have taken the IAT before would have potentially shown more of a resistance to effects as a result of experience. As such, any participants who indicated prior psych knowledge or IAT completion was not be counted in the data analyses. While maturation is an experimental concern in other experiments, in this research, the expectation was that learning would occur, and that the resulting cognitive changes would cause a performance difference.

However, there were a few potential threats to study validity as a result of this research design. This study used a single case study, with no control group. This was an unfortunate limitation, as there was a chance that students may have been quantitatively different in the group. However, there was no way to create a reasonable and comparable control group of first semester college students at the time. As previously discussed, students with prior knowledge were eliminated, which hopefully helped partially counteract this threat.

A second potential threat to validity was the lack of random assignment. As this was run in Learning Communities, students did self-select into Learning Communities. This was an
unavoidable consequence of course registration. However, as all first semester, full time students must take a Learning Community, student demographics were collected to ensure that the students enrolled were representative of the larger population. Additionally, these student demographics were used in analysis as predictor variables for the data model.

A third potential threat to validity was that of time order effects and performance learning curve on a test-retest method. A couple things should be noted about this. First, the IAT shows strong reliability (Nosek, Greenwald, & Banaji, 2005). Specifically, when the IAT is given in a multi-block format, as the stimuli were shown for a short time and participants were encouraged to respond implicitly, the images were less memorable. Secondly, the images were counterbalanced to minimize order effects in terms of procedural memorization. Lastly, the participants were given practice trials of the test, to help aid them on implicit performance. Participants that took too long to complete the practice trials were shown prompts that told them they needed to reply faster. Conversely, participants that went too quickly were shown prompts telling them they needed to slow down. As these helped the participant think and respond implicitly, demand characteristics were lowered. The participants, while aware of the experimental purpose, did not have the time to cognitively monitor their behavior or change it to match desired experimental outcomes.

In terms of the procedures, the experimental method was clearly laid out in Greenwald et al.’s (1998) seminal work to ensure experimental replication and increase reliability. All researchers were instructed to transform the data and to treat values under 300 m/s and over 3,000 m/s as outliers. This ensured consistency. As the data was based on reaction time and was
numeric, this quantification lowered the risk of subjective experimenter bias within data interpretation.

**Reliability**

One concern with using the IAT was internal consistency reliability of the IAT scale data. In order to ensure that all the IAT items were internally consistent, Cronbach’s alpha was used to assess scale reliability. According to Muijs (2011), alpha =0.7 is acceptable and alpha >= 0.8 is good, so these are the criteria used to assess data reliability. In order to increase score consistency, all participants received the same set of instructions via the web, and the IAT reaction time scores were assessed using the standard implementation, design, and analysis suggested by Greenwald et al. (1998) of multi-block design, data outlier deletion, and reaction time grouping.

As an instrument, the IAT has been shown to be high in predictive reliability independent of explicit measures. As suggested in their meta-analysis, Greenwald, Poehlman, Uhlmann, and Banaji (2009) found the IAT to be a statistically significant predictor of behavior in socially sensitive contexts. The researchers concluded that the IAT has predictive validity as a standalone metric.

**Generalizability**

For study generalizability, the standardized regression coefficient (beta values) were used in order to determine effect size. The regression model gave the variance explained for each coefficient.
**Test Generalizability**

The literature suggested that it was difficult for participants to fake IAT responses, which suggests increased test generalizability (Steffans, 2004). In terms of population generalizability, participant demographics were collected and compared to the demographics of the college to assess whether the students enrolled in the Learning Community were representative of the college population as a whole. This information is available in Table 1, in the Research Site description.

This study seemed to be high in ecological validity, which is defined as how generalizable the experiment is to other experimental settings. First, this study was conducted using the standardized procedure initially established by Greenwald et al. (1988), which has been replicated and found to be valid across multiple studies, institutions, and populations (Hofmann et al., 2005). These procedures were readily available for replication (and can be found in the experimental procedure section of this document). This procedure recommended multiple-treatments of data collection within counter-balanced blocks of trials. This helped eliminate the Hawthorne effect. This also minimized experimenter effects, as participation was voluntary, anonymous, and done remotely.

**Quantitative Measures**

The qualitative measures included Phase one and three of the proposed study. Phase one involved in-depth Learning Community document review and analysis. Phase three consisted of semi-structured small group interviews assessing participant experiences.
Quantitative Data Collection

Phase One: Documents have been obtained from the Learning Communities department. These documents included:

1. Learning Community Descriptions and Overview
2. Learning Community Mission Statement
3. Learning Community Objectives and Outcomes
4. Learning Community Evaluation and Assessment
5. Additionally, during the discovery profile of Phase one, the researcher uncovered and displayed information and statistics on student demographic profiles. This allowed for better study generalizability, as well as a deeper understanding of the Higher Educational profile as a whole. Additionally, it helped better inform the discussions of Phase Three.

Phase Three: Semi-structured small group interviews were conducted with the Learning Community seminar students at the end of the semester. The students were asked open-ended questions meant to encourage perception of diversity awareness as a whole, and at the college, as a result of their seminar experiences. These questions were based theoretically off of an assessment rubric developed by the college’s Engaged Campus Outcomes and Assessment Design Team (2007), and revised based on the literature. This rubric was meant to assess whether student experience in Learning Community seminars reflect a gain in intercultural knowledge and competence (Bennett, 2008). The questions can be seen in Appendix One.
Phase Three Procedure

Towards the end of the semester, students were assigned a critical writing in advance, allowing them to respond first in writing as to their diversity awareness perceptions. During the last class of the course, students were randomly assigned to small groups of four to six students per group. Once informed consent was obtained, students discussed and shared their responses. This process used emerging pragmatic theory, allowing for response time, and then in-depth shared responses that were rich in content.

Student responses were shared with the group and recorded. The researcher captured similarities, differences, main points, and critical content on a flip-board. Students were asked about their personal understanding of diversity awareness, when they’ve observed it in the Learning Community, what role diversity awareness plays in the Learning Community, as well as incongruences between diversity awareness in the Learning Communities and in the college as a whole. Lastly, there was a final group brainstorm as to the future of diversity awareness at the college.

Quantitative Data Analysis

Phases One and Three consisted of document review and analysis, in the form of Learning Community literature involving course development, mission statements, and values (Phase One) and semi-structured small group semester interview questions about student Learning Community experience, which were transcribed (Phase Three). To maintain experimental consistency, the interviews were conducted by one person.
The approach used is based on the concept of data perception suggested by Strauss and Corbin (1990), who posit that data should be viewed dynamically, with an eye towards coding dynamic shifts in participant thought, attitude, and experience that occur naturally. Strauss (1987) poses an integrative model that combines professional definition of terms with a theoretical lens orientation. The dual approach was used conceptually along with Miles and Huberman’s (1994) interactive analytic inductive approach. The data was coded and presented according to the abstract procedure set out by Miles and Huberman (1994), who suggested the following phases:

1. Reduce the data
   a. Review data
   b. Code list
   c. Assign codes

2. Display the data:
   a. Open codes
   b. Code properties
   c. Code examples

3. Draw and verify data conclusions

   However, specifically, in order to identify key themes and codes, while reviewing the data, a Grounded theory approach was used to code and assess the data (Creswell, 2009).
Grounded theory allowed a systematic approach to data in which core categories emerge that are grounded in the theoretical framework.

An open coding approach was initially used, to generate substantive codes that were based on participant and true document identity and experience. This best fit with the data for Phases one and three, as it helped better render the data based on theory (Glaser, 1978). These labels were both descriptive and in vivo (Strauss, 1987) in order to generate strong conceptual labels based on the text and participant experience. These codes were applied to the text to better assess central data concepts. In vivo codes were used whenever applicable to ensure data veracity and authenticity.

Secondly, in order to link interrelated categories together and better understand perceptual and experiential linkages in the data, axial coding was used (Strauss & Corbin, 1990). This allowed key linkages and concepts to emerge from the data. It also allowed better insight into the data structure and helped elaborate on how course materials and participant experience tied into the theoretic lens of Gidden’s structuration framework (1984).

The qualitative data was transcribed and analyzed using Rev.com to transcribe the data. Multiple coders then assessed the transcribed data and compiled in vivo codes into grouped categories. The use of grounded theory along with in vivo codes allowed the data to better integrate actor experience, attitudes, and behavior to underlying structure that governs, norms, and informs actor behavior, as suggested by Gidden’s work (1984).
Qualitative Trustworthiness

In order to assure data trustworthiness, the data was maintained in detailed, logical order, and stored to ensure privacy. The data was assessed by multiple coders. As suggested by Lincoln and Guba (1985), this helped ensure data meticulousness. Outsider coders were used to assess and ensure code validity, which helped support the trustworthiness of the reported coding scheme.

Guba (1981) suggested that qualitative trustworthiness can be ensured in four ways:

1. Credibility: The experiment used materials established within the college, and based on prior data collection (Bennett, 2008). Secondly, the document review of Phase one helped establish familiarity with the Learning Community organizational structure, culture, and framework. It also ensured inter-experiment credibility by establishing a culture of diversity awareness and baseline markers for diversity education implementation. Participants also had a semester-worth of community building with the researcher, so a rapport was established, and the researcher encouraged honesty and open-ended thinking.

2. Transferability: Full disclosure was given as to organization description, participant restrictions, data collection methods, and data collection time and frequency to help allow for maximum experimental transferability.

3. Dependability: To increase this project’s dependability, full information as to the research design and implementation was disclosed, including all operational data collection details.

4. Confirmability: While researcher bias was a potential problem for this data collection process, the use of in vivo coding and mixed method design helped ensure a multi-step
approach that collectively integrated multiple modes of data collection that minimized experimenter bias. While the quantitative measure precluded in-depth triangulation, it also helped eliminate experimenter bias due to the nature of reaction-time data. That, combined with document assessment and participant experience as viewed via in vivo coding helped aid with experimental confirmability.

Qualitative Bias

Phases One and Two were low in potential participant biases in response to course selection and instructor choice. Phase One involved document review and had no participant interaction. Phase Two was done remotely, via a websurvey, and was anonymous, which helped minimize participant reactivity in terms of the course and desired responses to the instructor. However, Phase Three did involve face to face interviews conducted by the researcher/instructor. This was of potential ethical concern, as there was a risk for experimenter bias in terms of interpretation of their responses. Additionally, participant reactivity may have occurred.

These issues were dealt with in two ways. First, the participants were encouraged to reflect on the questions before they were interviewed, promoting hopefully more accurate interview data. Secondly, the interviews were conducted after final grades were entered, lowering participant-instructor reactivity. Participants were encouraged to be as honest as possible in their responses. Unfortunately, due to site limitations, it was not possible to have an outside researcher conduct the interviews at that time.

Additionally, multiple coders were used to assess the data. There was extensive inter-rater training. All coders read an excerpt from Creswell (2009) on qualitative coding techniques, and the techniques were discussed in depth. After that, there was a qualitative norming session
on an exemplar interview, designed to synchronize the coders in terms of their techniques and approach to the data, based on Creswell (2009). These methods and training were done to help minimize individual experimenter bias in response to the interview data in Phase Three and to help ensure rich, accurate data.

One additional level of bias that may have occurred was that participants self-selected which course to enroll in. While Learning Communities may be mandatory at the research site for all first semester, full-time students, they still chose which Learning Communities to enroll in. This suggests a potential level of bias around the students and their choices. This is a study limitation, as well as a practical reality, as the current experiment could not feasibly compare students across all Learning Communities in the college. However, the Learning Community Documents do suggest course outcomes of diversity awareness and engagement regardless of Learning Community topic. Additionally, Learning Community instructors complete extensive professional development training in terms of their course pedagogy and approach to help ensure similar student outcomes in the Learning Communities, regardless of course lens. This professional development training does serve as a mitigating factor for student bias in terms of enrollment choices.

Lastly, data was triangulated across the three phases to help minimize potential bias in terms of participant and experimenter reactivity. This helped increase data consistency and lent insight into data application across the phases. This data source triangulation increased data credibility and validity, and gave more insight into the research topic.
Positionality Statement

Prior to entering the educational field, the researcher was formally trained in social cognition, focusing on skin tone bias, race, stereotypes, and discrimination in the United States. This theoretical research background has been applied to the classroom for the past five years, both in the Behavioral Sciences department, as well as the Learning Community department.

In both areas, there was been an in-depth discussion of cross-cultural differences, relationships, and identity. These discussions engaged students and provide them with a unique opportunity to examine and discuss their own life stories. This has highlighted the impact of bringing diversity issues into the classroom. Additionally, the application of these issues has become of personal interest in terms of promoting classroom engagement, using effective pedagogy, and developing into a well-rounded scholar practitioner. Nganga (2011) notes the importance of this, claiming that it is of vital importance to apply research interests that relate to practice in order to best become a scholar practitioner.

Applying a mixed-methods design allowed a more integrative approach that combined quantitative reaction time and qualitative document assessment and semi-structured interviews. While the researcher may have a positionality bias in terms of experience and familiarity, using objective reaction time combined with in vivo coding lent veracity to the results and interpretation of the data.

Chapter four assesses and interprets the data in a multi-phase presentation, starting with Phase One. The chapter starts with a general description of key themes to emerge from the document analysis, then presents both the descriptive and inferential analyses from Phase Two.
Lastly, detailed key themes and exemplars from Phase Three are given, along with in vivo participant examples (as shown in the experimental tables). Lastly, all three are presented as an integrative general result, bringing together patterns and trends from all three phases.
Chapter 4

This chapter serves as a presentation of the results from the phases of data analyses, as well as an interpretation of the key themes and findings. The chapter starts with an overview of the analysis processes used, and the research context and profile of the participants. Broad descriptive output is given here. Secondly, there is an overview of the analysis process which gives insight into finding organization before discussing key emerging themes and interpretation of the themes. Data is presented first as a general description of key themes, using in vivo participant exemplars and quotes and data findings to illustrate initiate concepts, and then as deeper conceptual categorization based on emerging themes. After this, data is subsequently presented in terms of the research questions. Lastly, data is brought together in summary findings from aggregated analyses across research questions. All three phases are presented as an integrative general result, bringing together patterns and trends from all three phases. The chapter ends with general conclusions in terms of key data findings across phases.

The focus of the study was to explore and examine the dynamic interplay between college student enrollment in Learning Community courses with the existing institutional structures and factors. This allowed an examination of how existing social structures impacted student awareness and perception. This was done across three phases of data collection: Phase One was an examination of the college literature on Learning Communities, Phase Two was a quantitative survey assessing reaction time in order to determine factors impacting student implicit bias levels, and Phase Three was group semi-structured interviews exploring students’ perceptions of diversity awareness.
The analysis approach used to assess the research findings from the above phases was based on Miles and Huberman’s (1994) interactive analytic inductive processes. Miles and Huberman (1994) suggest that this inductive approach moves from specific observations and participant findings to an integrative broader theory and generalization. Their bottom up inductive approach starts with specific observations and moves to patterns and commonalities, then to themes within each phase of the data. Lastly, the inductive approach suggests general conclusions across data phases and research questions. As data collection for this experiment occurred in three separate phases, and data was coded in vivo and then grouped and categorized by emerging themes, the data analysis is based on an inductive approach.

**Participant Profile**

This subsection gives participant data in the study in terms of general participant demographics for age, gender, and race. All participants in the study were first semester, full time students at a large urban community college in the Northeast. Across the phases of data collection, 21 participants consented to participate in this experiment. 15 of the participants were female, and 6 were male. Ten of the participants identified as White, 6 as Black, 3 as Latino, 1 as Asian, and 1 as Native American. The participants ranged in age from 18-37, with a mean age of 21.5 and a median age of 20.

**Overview of Analysis Process**

This subsection highlights the analytic process used in this experiment. It explains the steps of data analysis taken in order to increasing understanding of data handling. Additionally, this subsection provides insight into data analysis process in order to increase study trustworthiness and reliability.
In this mixed-methods inductive case study, three steps of data analysis occurred. For phases one and three, multiple faculty coders were trained in qualitative data coding. The coders were all trained in open coding and axial coding. From there, a group coding session was conducted in which the data was coded and presented in-vivo, as suggested by Strauss (1987). From there the coders followed the coding procedure suggested by Miles and Huberman (1994) of interactive analytic inductive approach. Data was grouped into categories, and assigned representative codes by the researchers.

Specifically, for phase three of analysis, the semi-structured group interviews, five semi-structured group interviews were conducted with the students. The interviews were conducted after the semester ended, and finals grades had been submitted. The students were given the questions in advance, and asked to write and reflect on them in order to generate better critical thinking and responses. The students all consented to have the interviews recorded. Of the students enrolled in the course, 18 students consented to the interview. Additionally, the students wrote and recorded their own thoughts on large posted board given to each group before the interview. Lastly, the interviewer coded for student non-verbal responses during the interviews, looking at body language, verbal hesitations, and facial expressions.

Three coders looked at the responses, and coded them in-vivo, and then into categories. The procedure for Phase Three coding was the same as the procedure for Phase One coding. However, the coding procedure also included qualitative in-vivo and category coding of the student created poster boards.

For the quantitative phase two analysis, data cleaning was conducted using the steps outline by Greenwald et al (2003). Outliers and incorrect answers were removed, and then the
response time latencies were log transformed in order to meet assumptions of normality. One participant was eliminated from the analyses, as the correct answer rate to the facial primes was below fifty percent, and reaction time scores were often under 300 m/s, which suggests a lack of attention to the test.

Once the three individual phases of data analysis were completed, with themes emerging from each phase to align with and provide insight towards answering the research questions, the data was assessed across phases to help assess and explore overall analysis findings and themes that emerged over research questions and phases. This broader overview of data collection helped to give insight into deeper themes across phases, as well as allowed exploration of the interactive dynamic link between diversity awareness, participant perception, and institutional structure and forces.

Emerging Concepts and Themes

This section examines and reports the initial analysis phase findings, including examples of in vivo coding and broader code categorization and themes. Quotes are used to illustrate initial concepts, and then cross-concept categorization is given to highlight and develop emerging themes. This subsection is organized by phases, with in vivo coding and participant quotes given for each phase.

Phase One (College Literature)

The literature examined consisted of Learning Community documents collected from the college’s Learning Community office. These documents were: Learning Community Core Outcomes, Learning Community Objectives, Learning Community Mission Statement, Learning Community Overview, Goals of the Learning Community Seminar, Sample Learning
Community Goal Rubrics and Explanations, and Sample Instructive Assignments from Veteran Faculty intended to aid in Learning Community pedagogy and development.

The analysis process used to assess Phase One data was multi-coder in vivo coding, and then axial coding to assess broader themes. The key findings from Phase One analysis support a framework of diversity awareness and critical thinking in Learning Communities. This was evident throughout the pedagogy, objectives, and mission statement. Ideals of diversity awareness were imbedded in Learning Community institutional structure via discussion, reflective writing, student engagement, and collaboration.

From the coding session, the first thing that became clear from the data was that the college literature was focused on student oriented outcomes from a range of topics. This first code is represented by the phrase “Student Outcomes” in Table two, with sample in vivo phrases grouped together.

Table 2: Student Outcomes from Phase One of Data Analysis

| Student Outcomes | Outcomes: planning, exploration, career goals, financial goals, educational goals, personalized plan, developing skills, knowledge and values, aim of improving, self-assessment, increased awareness, enhanced knowledge, goal setting, problem solving, overcome barriers to success, demonstrate abilities, solve personal and academic problems, develop enhanced abilities, practice disciplined inquiry, construct questions, evaluate arguments, active collaborative learning environment, promotes cooperation, work collaboratively, “apply what they are learning in the classroom to the local and global community”, “open access … by providing a range of educational opportunities”, “student centered learning”, “draw on rich diversity of experiences”, prepare for careers, promote engagement, “develop academic foundations, strategies, and ways of thinking necessary for college success”, common objectives, “core student learning outcomes”, “build connections”, “foster increased conversation” |
From this initial large category, it became clear to the coders that the outcomes/goals were broken into subcategories of goals. The text was coded, and the categories grouped by like content. Content categories were then grouped under a unifying thematic category. These unified categories are: Critical Thinking, Diversity Awareness, and Communication.

*Critical thinking*

Initial coding of critical thinking themes revealed two distinct categories of Exploration of issues and Reflection. In vivo codes were grouped and categorize by thematic similarity.

The concept of Exploration of issues is illustrated by the following quotes from the college literature around Learning Communities. First, the literature claimed that Learning Communities have a mission of “comprehensive exploration of the issues” and that they allow students to “practice disciplined inquiry” and “construct appropriate questions”. The college literature also points out that students will gain the abilities to “answer an open-ended question” by “implementing a strategy” and be able to “identify and access sources of support”. These quotes suggest that exploration of issues is conducted by active inquiry and engaged learning by the students that allow them to explore issues and examine them in depth.

Secondly, the college literature points to the fact that not only do students actively explore issues, but they also reflect on this issues and knowledge that they have gained. This is evidenced by the fact that the literature encourages students to “reflect before accepting an opinion or a conclusion.” The reflection process appears robust, as shown by the following quote in which students are encouraged to actively reflect and use the information and knowledge given: students should “be able to reflect, identify, evaluate and use information”. Additionally, students are encouraged to form conclusions by “eliminating assumptions”, “removing
ambiguity” and engage in “integrative thinking skills”. This evidence points towards a college structural framework and mission that has the goal of encouraging exploration and in depth reflection. A list of in vivo codes and thematic categories is seen below in Table Three.

Table 3: Critical Thinking theme, subthemes, and in vivo exemplars

<table>
<thead>
<tr>
<th>Critical Thinking</th>
<th>Exploration of Issues</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>“comprehensive exploration of issues, ideas”, curiosity, “answer an open-ended question”, “implement a strategy”, “know when there is a need for information, “identify and access sources of support”, practice disciplined inquiry, construct appropriate questions</td>
</tr>
</tbody>
</table>

| Reflection       | “reflect before accepting…an opinion or conclusion”, “be able to reflect, identify, evaluate, use information, interpret arguments, evaluate arguments, formation of conclusions, eliminate assumptions, remove ambiguity, “integrative thinking skills” |

Diversity Awareness

Initial data coding for Diversity Awareness in the literature revealed a wealth of codes that were ultimately categorized into two subcategories of Diversity Awareness: Intercultural Knowledge and Intercultural Competence. The coders viewed knowledge as a cognitive process, and competence as an active, behavioral process that suggested engagement and interaction with other students and members of the college community. A list of this theme, subthemes, and in vivo codes is shown below in Table Four.

Intercultural knowledge suggests an active awareness of cultural norms, contexts, and interaction. This is illustrated in multiple ways in the literature. Students are encouraged to “integrate intercultural knowledge and competence” and gain “exposure to cultural different others”. Students are also encouraged to self-explore their own cultural identity by “placing culture at the core of learning” and by being able to “identify our own cultural patterns”. Lastly, intercultural knowledge discusses not only cognitive skills but awareness of “affective and
behavioral skills” via an application of practical knowledge. This practical intercultural knowledge is shown by the following quotes: Students should be part of a “local and global community” and “adapt empathetically and flexibly to unfamiliar ways of being”. Additionally, students should engage in “activities of personal and public concern” that allow them to “participate in an increasingly complex world”.

The subtheme of intercultural competence relies on active engagement and connection with others on the part of the student. This is illustrated by the following evidence from the college literature, in which there appears to be a theme of collaboration. Students will “foster connections” by “working collaboratively”. This “group process” will show teamwork and lead to “building connections” and “balanced collaboration”.

Table 4: Diversity Awareness theme, subthemes, and in vivo codes

| Diversity Awareness | Intercultural Knowledge | “cognitive, affective, and behavioral skills”, “effective and appropriate interaction”, cultural contexts, “activities of personal and public concern”, “life enriching and beneficial to the community”, making a difference, “civic life of communities”, diversity and community engagement, work with diverse peer groups, value diversity, “raises awareness of social issues”, “local and global community”, “appreciate diverse perspectives”, “participate in an increasingly complex world”, fostering connections, “integrate intercultural knowledge and competence”, seeing ourselves as members of a community, exposure to cultural different others, “engage others”, “place social justice in historical and political context”, culture at the core of learning, “identify our own cultural patterns”, “adapt empathetically and flexibly to unfamiliar ways of being.

**Communication**

The last major theme to emerge from Phase One data analysis was communication. The college literature seemed to suggest two components or subthemes of communication. These subthemes were verbal communication and written communication. In vivo quotes are given for each subtheme, and the themes plus quotes are also displayed in Table Five below.

The sub-thematic category of Verbal Communication in the literature points out that students in Learning Communities will be forced to engage with one another and explain their ideas and thought processes. Students will go through a series of “iterative experiences” that will build their “integrated communication abilities” and lead them towards a process of “building increased communication” by “making connections and explaining the material. The literature suggests that strong verbal communication is encouraged and fostered in students enrolled in Learning Communities. This is evidenced by the in vivo quotes that highlight a mission of “development and expression of ideas” as well as articulation of ideas by “making connections and explaining the material.

Secondly, the sub-theme of written communication illustrates the important of writing as a component of the learning process for students enrolled in the Learning Communities. The college literature highlights this sub theme in depth. This subtheme is illustrated by the urging of students to develop an “enhanced knowledge of the learning process” and by pedagogical goals that encourage “understanding of context”, usage of “appropriate and compelling context”, “straightforward language” and “consistent use of credible, relevant sources”.
Table 5: Communication theme, subthemes, and in vivo exemplars

| Communication | Verbal Communication | development and expression of ideas, working across technology, “iterative experiences”, making connections and explaining the material, “integrated communication”, connecting experience and knowledge, articulate, reflect, “building increased conversation”, central message, posture, gestures, language choices |
| Written Communication | enhanced knowledge of learning process, write on context specific topics, “writing component”, text exploration, source material, development and expression of ideas through writing, understanding of context, “uses appropriate and compelling content”, “consistent use of credible, relevant sources”, “straightforward language” |

Commonalities in Phase One

Many of the themes and subthemes suggested in Phase One imply overlapping and interconnected processes that have distinct and unique properties. For example, Communication, both written and Verbal, is strongly tied to Diversity awareness in terms of the Intercultural Competence collaboration and group work component. However, they are distinct, in that communication may exist on an individual basis, and also exist in terms of student communication with administration and the college at large.

Secondly, Critical Thinking is a key component of Diversity awareness in terms of Intercultural Knowledge. In order to better gain insight into “cultural context” and social issues, students need to reflect and utilize “integrative thinking skills”. However, while these two goals are interconnected, critical thinking has applications to broader course material. Additionally, Diversity Awareness includes an application of issues via civic engagement and collaboration and team work with others.
From examination of the literature, it is evident that the college supports a reflective environment that fosters diversity awareness and critical thinking, reflection and examination of issues around diversity. This is done individually, through discussion and reflective writing, and via student engagement, projects and collaboration with others. The pedagogy highlights a framework of diversity awareness throughout the course. The mission statement and other college literature for Learning Communities suggests that ideals of diversity awareness are imbedded in institutional structure and implemented in classroom pedagogy and curriculum.

*Interrater reliability for Phase One*

Multiple coders were used to increase experimental trustworthiness, as suggested by Guba (1981). Interrater reliability was calculated using the joint probability of agreement, as suggested by both Shek, Tang and Han (2005) and Creswell and Miller (2000), who highlight the importance of systematic procedures. The joint probability of agreement is a simple ratio of the number of times coders agreed on the rating, category, or in-vivo listing divided by the total number of ratings. The coders went through all of the codes and code categories, and determined overall areas of agreement and disagreement. The interrater reliability for Phase One of data analysis was 97.3%.

*Phase Two*

Phase Two consisted of a Quantitative reaction based IAT survey, which occurred at the end of the semester. The data analysis process for Phase Two consisted of data cleaning, and log score transformation. After this, mean D scores were calculated for participants, and then a regression analysis was performed on the D scores. The findings for Phase Two showed that although participant demographics did not significantly predict D scores, participants did show
an unusually low and atypical pattern of D scores for the racial categorization Implicit Association Test.

Data cleaning was conducted using the steps outline by Greenwald et al (2003). Outliers and incorrect answers were removed, and then the response time latencies were log transformed in order to meet assumptions of normality. One participant was eliminated from the analyses, as the correct answer rate to the facial primes was below fifty percent, and reaction time scores were often under 300 m/s, which suggests a lack of attention to the test.

*D score*

The IAT test consisted of seven trial blocks, five of which were practice blocks. The two test blocks in the IAT test, block four and block seven, were used to calculate an IAT D score, based on Cohen’s D for each participant. The IAT D score is the difference between the test block means divided by the standard deviation of all latencies for the two test blocks of paired stimuli (valence and race). These D scores were then used in a multiple linear regression analysis, as suggested by Muijs (2011), in which the IAT D score, a continuous variable, served as the outcome or dependent variable, and participant demographics of age, race, and gender served as predictor or independent variables.

*D score reasoning and interpretation*

While the IAT does give four unique pairings of Black Bad, Black Good, White Bad, and White Good, Greenwald et al (2003) suggest that moving from a posthoc individual mean score comparison model to an overall computed D score better adjusts for magnitude of differences between treatment means. Additionally, it adjusts for differences between means to better assess and understand underlying variability. Therefore, the distinction between Black Bad and White
Good is less pertinent, as it suggests a similar pattern of implicit bias. The same is true for the reverse model of Black Good and White Bad. There is only a need to understand the difference between the association of White Good and Black Bad versus Black Good and White Bad. As such, the mean differences for the test phases of block 4 and block 7 were calculated. Block 4 was a test phase of White Good and Black Bad, and 7 was a test phase of Black Good and White Bad.

The D score ranges from negative two to positive two, with negative scores indicating faster sorting of White faces with bad words and Black faces with good words. Positive D scores indicate faster sorting of Black faces with bad words and White faces with good words, and is suggestive of higher unconscious cognitive bias. This interpretation of the IAT D score is modeled on Greenwald et al (2003) work on the IAT D score effect.

*Internal Consistency Scale Reliability*

Cronbach’s alpha is used to assess scale internal consistency for the IAT. In examining all the scale components (D-score, race, age, and gender), the Cronbach’s alpha is alpha = 0.401. Muijs (2011) suggests that an alpha above 0.70 is good, therefore, the alpha is considered poor.

*D score findings*

The mean D score across participants was -.401, with a standard deviation of .33. The D scores are represented below in Graph 1, in the bar graph of Participant Mean D Scores.
Figure 4: Participant Mean D Scores

Regression Analysis

Using a multilinear regression model, there is a poor fit of the predictor variable data to predict D score (adjusted R squared = -0.029), as suggested by Muijs (2011). The proportion of variance explained in multilinear regression is equal to $R^2$. The three predictors of age, race, and gender explain 12.5% of the variance, $R^2 = .125$, $p = 0.506$, which is not statistically significant. None of the IVs significant predicted the DV.

The best predictor of D score was race, although again not significant ($p = 0.306$), with the highest beta of 0.240 (gender beta = 0.230, $p=0.350$ and age beta = -0.222, $p=0.368$). Each IV had high collinearity in terms of tolerance (race= 0.992, gender = 0.901, and age =0.898), suggesting that the other predictors most likely do not explain the variance in the variable. This finding is consistent with Muijs (2011), who points out that a tolerance value close to one indicates that the other predictors in the model do not account for variance in a particular variable.
Given the pattern of D scores, participants showed an atypical pattern of bias regardless of race, gender or age. Greenwald et al (2003) suggests that the negative pattern of D scores across participants can potentially be seen as lower cognitive biases in terms of unconscious racial classification.

*Phase Three: Semi-structured Group Interviews*

Phase Three was designed to assess the dynamic interplay between intuitional framework and student perception of diversity awareness as a function of the embedded institutional structure. This phase consisted of semi-structured, small group interviews during which participants were asked to respond and reflect on five open-ended interview questions. The data analysis process for Phase Three was similar to Phase One in that multiple coders looked at the data. In vivo coding was conducted, and then axial coding was used to assess and group the data into thematic categories.

The key findings from Phase Three data analysis suggest that participants showed clear awareness of diversity awareness ideals, both abstractly, and in the Learning Community specifically. They were aware of the ideals of diversity awareness embedded in the course, and commented that the course increased critical thinking, engagement, acceptance, communication, and collaboration. Most significantly, the participants observed that the course participation not only made them more aware of diversity awareness at the college overall, but also led to an increased perception of incongruences and failures in terms of diversity awareness within the college model.
Phase Three Data Process

Five interviews were conducted with the students. The interviews were conducted after the semester ended, and finals grades had been submitted. The students were given the questions in advance, and asked to write and reflect on them in order to generate better critical thinking and responses. The students all consented to have the interviews recorded. Of the students enrolled in the course, 18 students consented to the interview. Additionally, the students wrote and recorded their own thoughts on large posted board given to each group before the interview. Lastly, the interviewer coded for student non-verbal responses during the interviews, looking at body language, verbal hesitations, and facial expressions.

Three coders looked at the responses, and coded them in-vivo, and then into categories. The procedure for Phase Three coding was the same as the procedure for Phase One coding. However, the coding procedure also included qualitative in-vivo and category coding of the student created poster boards. The qualitative analyses for Phase Three are initially organized around the individual questions that the students answered.

Question One: What does diversity awareness mean to you?

This question was designed to assess student perception of diversity awareness as demonstrated and implemented by the Learning Community and institutional structural framework around diversity awareness. In coding participant in vivo responses to this question, two key themes emerged: a Shift in Cognition in terms of Diversity Awareness and a Shift in Action in terms of Diversity awareness. While these two themes are certainly interrelated, they were seen as unique by the coders, because one theme is a mental state suggesting an attitudinal
shift and the other is action-based state, suggesting a behavioral shift. These themes can be seen below, in Table Six.

*Shift in Cognition*

Participant perception of shifts in cognition were characterized by both open-mindedness and willingness to change attitudes, as well as actually implementing attitude change, which the coders termed Acceptance. Acceptance was hallmarked by an increased awareness of different cultures, as well as a willingness to learn about new cultures and gain a new respect for other’s diversities. This is evidenced by quotes from the participants in response to this question. One student commented that “diversity awareness means being aware that everyone is different.” Another student said that it meant an “awareness of different cultures and religions.”

Participants expanded on the active willingness and respect gained, as seen in the following quote in which a student stated that diversity awareness mean “being completely accepting of differences regardless of their orientation, background, gender, race…” Ten of the students added that diversity awareness was linked to a gain in knowledge and open mindedness about different cultures and people.

A second subtheme to emerge from the data analysis in terms of cognition shifts was the need for open mindedness. Students expressed this in multiple ways. One student eloquently stated the need for the “cutting the ties of all the judgmental strings that we have…we all grow up with these thoughts.” Others expressed the concept in terms of removal of negative thoughts as well, from a “lack of offense and ignorance” to the admonishment that people “don’t have to be so closed off and closed minded.”
Shift in Actions

The second theme to emerge from question one was that diversity awareness could be also characterized by a shift in actions. This suggests an active, behavioral component of diversity awareness. Ten of the students interviewed commented on the action component of diversity awareness. This was observed and discussed via two subcomponents of action shift: positive action and negative action removal.

Positive behaviors were discussed as “making the effort to get involved with other races and cultures”, as well as “learning about everyone around you.” One participant noted the need for “active efforts” in “forming connections.” Multiple participants noted that “having cultural events” led to increased diversity awareness. The removal of negative behaviors were characterized by fewer participants (three out of the group of 18 student interviews). These can be seen when one student commented that people shouldn’t “ignore people because they seem different.” Another student said that there was a need to “not actively judge people or treat them badly and just accept everybody for who they are and not discriminate against anybody or have any prejudice.”

Table 6: Question One Themes, subthemes, and in vivo exemplars

<table>
<thead>
<tr>
<th>Shift in Cognition</th>
<th>1. Acceptance</th>
<th>2. Openmindedness</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Acceptance: Awareness of different cultures, religions, learning new aspects of culture, openmindedness, moving past close-minded ideas, “being aware that everyone is different”, “being completely accepting of differences regardless of their orientation, background, gender race”, “the life choices that they make”, childhood influences, “respect and appreciation for others”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Openmindedness: lack of offense and ignorance”, “awareness of our surroundings and the people in them”, openness, “respect for other cultures” “it’s not just culture, it’s also religion, gender and ethnicities, race, and sexual orientation”, “cutting the ties of all the judgmental strings that we have…we all grow up with these thoughts”,</td>
<td></td>
</tr>
</tbody>
</table>
“you’ve got to let go of negative thoughts”, “don’t have to be so closed off and closed minded”

<table>
<thead>
<tr>
<th>Shift in Actions</th>
<th>1. Positive Behaviors towards Others</th>
<th>2. Removal of Negative Behaviors</th>
</tr>
</thead>
<tbody>
<tr>
<td>Positive: being more accepting and welcoming to others, behavioral changes, “make the effort to get involved with other races and cultures”, “community awareness”, “trying new things”, “having cultural events”, “be comfortable with people”, “live in the world”, “happier learning about everyone around you”, “forming those connections”, “active efforts”, being aware of their differences is kind of like seeing the similarities that they have with yourself”, “we all have common traits with each other”</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Negative: “not actively judging people or treating them badly and just accepting everybody for who they are and not discriminating against anybody or having any prejudice”, “don’t ignore people because they seem different”</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Question Two: How have you personally observed diversity awareness at the college?**

This question was designed to move beyond participant learned perception of diversity awareness as a function of Learning Community structure and enrollment to their perceptions of diversity awareness in general at the college. This question was meant to assess whether participants observed diversity in terms of social and classroom/community interactions.

In coding this question, two key themes emerged: Social Interactions and College Community/Activities. While community and activities do have a strong social component, the coders viewed these categories as distinct because many of the comments about social interactions suggested unplanned hallway interactions as a key component. In contract, diversity awareness at the college in terms of communities focused both on clubs and activities, as well as symbols representing diversity around the college. These themes can be seen below in Table Seven.
Social Interactions

Social interactions were observed by the participants as a key component of diversity at the college. Sixteen out of the eighteen participants commented on social interactions. Examples of this include the idea that “other schools have to pay students money to get diversity”, implying that this college does not, and that the college does not have “token black people”. One student termed the school “a frittata”, or a mix of cultures. A key example of this concept is seen in one student’s comment, who said that “you walk down the hall and you’ve got all different races…everybody talking to each other.”, and that “no one is afraid to show what they are, who they are, or why they are.”

Community/Activities

Participants also observed the multiple ways diversity was expressed more formally at the college. Six students mentioned the “inclusive clubs” to support diversity. One student illustrated that in the comment that “the cultural club accepts everyone”. Three students commented on other signs of diversity in the college, from “a prayer room for all religions” to “flags all over the school representing different countries”. Another student summed up the sentiment by stating that the college has a good “recognition of other countries, other traditions, other holidays…”

Table 7: Question Two Themes, subthemes, and in vivo exemplars

<table>
<thead>
<tr>
<th>Social Interactions</th>
<th>“I don’t see clones of me when I walk around the school”, “No token black people”, “other schools have to pay students money to get diversity”, you walk down the hall and you’ve got all different races…everybody talking to each other”, speaking different languages, “good college experience”, “grouping themselves off, like everyone’s communicating with each other”, “the school is like a frittata, “no one is afraid to show what they are, who they are, or why they are”, no weird looks, languages intermixing, welcoming, “not excluding people outside their race”, “people here embrace and share what they have and who they are”, “I think the students drive the diversity”, “everyone comes together to learn”, “community college in the city with kids from all different neighborhoods”</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community/</td>
<td>“We have a prayer room for all religions”, “the colleges acknowledges other religions”</td>
</tr>
</tbody>
</table>
One interesting piece of data that emerged from question two was that despite the question not asking about observations around a lack of diversity awareness, three participants commented on problems with diversity awareness at the college. These problems were that a. the police force does not respect diversity b. A student commented that “There are sometimes problems with intermingling…people can stay in groups” and c. That “Some people don’t take classes that encourage diversity”

**Question Three: How does this Learning Community promote diversity awareness?**

Having discussed perception of diversity awareness in general at the college, question three was designed to assess student perception of diversity awareness within the Learning Community specifically. This question gives insight into whether the designed Learning Community framework was actually implemented within the course.

In coding participant responses to this question, two major themes emerged. The first was Interactions with others, which had subcomponents of both Academic Interaction and Social Interaction. The second was Mental Growth/Processes, which was characterized by sub-concepts of both Critical Thinking and Growth. These themes can be seen below in Table Eight.

**Interactions with others**

Students discussed interactions both academically (within course topics and academic discussion), as well as social interactions within the class (friendships formed, understanding of others, and non-academic discussions). For Academic Interaction, students commented that the
class involved open minded discussions that helped “people understand different perspectives.” Another student said that the course dealt with controversial topics in which he was able to share “your own opinion, sharing what you have, and what you’ve experienced.” One student commented that “the topics were really meaningful.” Fourteen students observed that academic interactions were a key component of diversity awareness within the course, citing specific examples of activities done in the class.

Social interaction was also seen as integral to diversity awareness in the course. This is illustrated by one student who said that “you walk into class and none of us are the same. I got to be friends with a lot of people that I never got the chance to be friends with. I love it.” Another observed that the course led to a “comfortable, deeper understanding”. The social bonds formed in the course were evident in the comment of a student who expressed sadness over the course ending, stating that “It sucks that it has to end now that we all have really gotten to know each other.”

*Mental Growth/Processes*

Students also felt that the academic and social interactions had a significant influence on their growth and understanding of others, and diversity awareness and acceptance. This was seen both in terms of increased Critical Thinking in the course as well as their reflections on their personal Growth. It should be noted that while Critical Thinking and Academic Interaction appear to have some similar ideas, they are distinct categories, as critical thinking is a reflective, individual process that highlights growth, and academic interaction is a collaborative process that highlights social interaction.
In terms of critical thinking, students commented that the course “gives a different view on society”, and allowed them to “look things more in depth”. One student pointed out the application of diversity awareness went beyond the classroom, in that it allowed them to “recognize issues that are beyond just textbooks”. This critical thinking impacted their individual growth within the course. Nine students observed this factor. This is evidenced by comments in which students state that the course has a “bleed effect into outside experiences”, that the course allowed them to “use information here and apply it to future classes” and that it was a transformative process that “opened my eyes up to everything”.

Table 8: Question Three Themes, subthemes, and in vivo exemplars

<table>
<thead>
<tr>
<th>Interactions with Others</th>
<th>1. Academic Interaction</th>
<th>2. Social Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Academic: deep discussions and hitting heated topics”, “sharing your own opinion, sharing what you have and what you’ve experienced, “helping people understand different perspectives”, open minded discussions, in depth communication, dealing with controversial topics, everyone listened and was flexible and open minded. They had like a story to like relate or share back.”, “it gives you confidence to speak your opinions outside”, “you (meaning the teacher) say things and I just feel that I never thought of it that way.” “the topics were really meaningful”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Social: deeper critical thinking about the topics, “culture shock…it opened me up to younger generations”, “comfortable, deeper understanding”, “you walk into class and none of us are the same. I got to be friends with a lot of people that I never got the chance to be friends with. I love it.”, “peace course”, “it sucks that it has to end now that we all have really gotten to know each other”, “sad when class ends”</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mental Growth/ Processes</th>
<th>1. Critical Thinking</th>
<th>2. Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Critical Thinking: “gives a different view on society”, “look things more in depth”, opens up the mind to be open “to be, you know, more open-minded, easy going to other new experiences and learning other things”,” recognize issues that are beyond just textbooks”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Growth: “bleed effect into outside experiences”, learning from others, “use information here and apply it to future classes”, “formalized what I already knew “, “it opened my eyes up to everything”</td>
<td></td>
</tr>
</tbody>
</table>
Question Four: Are there incongruences between the course experience in terms of diversity awareness and general awareness at the college?

Having established student perception of diversity awareness within Learning Communities as a function of Learning Community structure and pedagogy, this question is designed to see if there are incongruences between the course experience and the college experience. While the Learning Community literature, as well as student perceptions of the Learning Community course, suggest a strong framework of diversity awareness, this does not necessarily imply that this framework of diversity awareness continues and is supported by the college as a whole. It should be noted that two students did say that they have not observed or experienced any problems. The themes and comments below are from the remaining students. These themes can be seen below in Table Nine.

Interaction Incongruence

Students pointed out three major issues of incongruence. It is interesting to note that this was the question that students had the most difficulty with and were the most hesitant answering. Some felt that at times there was a lack of diversity awareness in terms of interactions, both in the hallway, and in the classroom. Four students commented on the lack of hallway interaction at times, saying that “other students hang in cliques” and that “everyone goes into their own little world, no one breaks the mold.”

Eight students commented on problems with diversity awareness in terms of classroom interaction. The comments centered around pedagogy and teacher engagement. One student commented that “I don’t really talk to people in my other classes…the teacher doesn’t encourage
Another lamented the lack of group work or bonding, calling the classes “rigid.” One student went so far as to claim that the other professors were dismissive of opinions and as a result, he “just looked straight ahead in my other classes.”

Closed Mindedness

Three students commented on what they felt was close mindedness at the college. One student said there was an “inconsistency between the course material and what the college seems to promote”, especially in terms of “resistance to new ideas”. Another student pointed out that “some people are reluctant to discuss LGTBQ rights outside the club”. The third student commented that some students seemed to not care about diversity.

Discrimination

Three students commented on both active and passive discrimination as incongruence of diversity awareness within the college. Examples of active discrimination cited were that there was a distancing “sense of bureaucracy”, shown by a lack of acceptance and coldness from desk workers. A second student said that there had been “problems with administration and advising”. The last student said that the police were a problem, but when asked why, pointed silently at his skin tone. This implied that the college police are harsher on minorities.

Passive discrimination was shown in a student comment that said “people give lip service to diversity.” Another commented on the fact that international students were not being fully supported, pointing to the lack of translators or clear Multilanguage school navigation. The student commented that there was a “demand for more support for international students, which is not being addressed”.

it”.


**Table 9: Incongruence Themes, subthemes, and in vivo exemplars**

<table>
<thead>
<tr>
<th>Lack of Interaction</th>
<th>1. Hallway Interaction</th>
<th>2. Classroom Interaction</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Hallway: “other students hang in cliques, less self-aware, “the blacks kids all just hang out together”, “we already have our groups”, usual pairings, “everyone goes into their own little world, no one breaks the mold, “progress happens slowly” “when talking to others, they’ll be resistant sometimes”</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Classroom: “need to better communicate what our diversity is like and the options available to students”, “I don’t really talk to people in my other classes…the teacher doesn’t encourage it”, “just look straight ahead in my other classes”, “no group work or interaction”, no encouraging of bonding, “other classes are horrible…everyone is just lined up and quiet”, “lack of expression, no inspiration”, “rigid”, some professors aren’t even open with students”, dismissing opinions</td>
<td></td>
</tr>
<tr>
<td>Closed Mindedness</td>
<td>“Resistance to new ideas”, “inconsistency between the course material and what the college seems to promote”, “some people are reluctant to discuss LGTBQ rights outside the club”, “different vibe in other classes”, some students don’t care about diversity</td>
<td></td>
</tr>
<tr>
<td>Discrimination</td>
<td>1. Active Discrimination</td>
<td>2. Passive Discrimination</td>
</tr>
<tr>
<td></td>
<td>Active: “sense of bureaucracy”, “lack of acceptance and coldness from desk workers”, problems with administration and advising, police are harsher on minorities</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Passive: lack of translators or school navigation at times, especially for ESL students, “demand for more support for international students, which is not being addressed”, “lack of support holds up lines….people need help”, “people give lip service to diversity”</td>
<td></td>
</tr>
</tbody>
</table>

**Question Five: In the future, if the college were to become a model of diversity awareness, how might that happen?**

Question Five was designed to be a reflective, solution based approach intended to address and provide student generated solutions towards solving some of the problems and incongruences suggested in Question Four. Students generated themes of better Communication and Education as a solution, as well as a potential Restructuring of the Administration. These themes can be seen below in Table Ten.
Community and Education

Students felt that there was a need to both reach out to current students more, as well as reach out and provide better communication to the families of students in order to increase outside support for students. Four students made observations on this theme. They commented that not only was there a need for a “better mingling of US and International students”, but that regardless of student level, there should be “more cultural awareness presentations than the current level”. Another student summed her feelings up with a desire for “better education and information about different cultures in classes”. Lastly, there was the idea that “early outreach to students” could include their families for greater support and assistance.

Restructuring administration

Seven students shared perceptions that highlighted a potential need for administration restructuring in terms of diversity awareness at the college. The students interviewed commented on two unique areas where they felt that the college needed to restructure and change on an administrative level. First, there was the need for increased administrative cultural awareness in terms of “mandatory diversity education for all freshmen”, as well as “more diversity in advertisements” for the college. Secondly, there was the need for more administrative support to promote diversity awareness. While some comments were unrealistic (such as a bigger campus or one student’s desire to “make this class mandatory”), other students requested “more peer mentors in class” and a “clearer explanation of the college process to help support non-native speakers”.
Table 10: Question Five Themes, subthemes, and in vivo exemplars

<table>
<thead>
<tr>
<th>Community and Education</th>
<th>1. Reach out to Families</th>
<th>Families: “Early reach out to students, include families for greater support”</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Reach out to Current Students</td>
<td>Students: “better mingling of US and International students”, promote student exchanges,” more cultural awareness presentations than the current level”, “better education and information about different cultures in classes”</td>
</tr>
<tr>
<td>Restructuring of Administration</td>
<td>1. Increased Cultural Awareness</td>
<td>Awareness:” mandatory diversity education for all freshmen”, “more diversity in advertisements”</td>
</tr>
<tr>
<td></td>
<td>2. Increased Support</td>
<td>Support: Increased support: more awareness of support in and outside the school, bigger campus and more space for events, “make this class mandatory”, “have more peer mentors in other classes”, “clearer explanation of the process to help non-native speakers”</td>
</tr>
</tbody>
</table>

Phase Three Inter-rated reliability

All three coders showed high agreement on the qualitative coding and categorization for this phase. The rate of coder agreement was 96.5%, with two out of three of the coders agreeing on the disputed item. Coder agreement was calculated as the sum of agreed items over the sum of total coded items.

Interviewer Coded Nonverbal behaviors

While there were differences in terms of group discussion, with some groups being more talkative than others, there were nonverbal behaviors that occurred across groups. For questions one through three, participants were positive. I observed fluid tone and pacing, as well as open body language (relaxed posture, arms loose), and calm, happy facial expressions (smiles from broad to reflective, natural eye contract).

However, in contrast, when the students were asked to answer Question Four, about incongruences within the school, they showed hesitation, reluctance, and uncomfortableness
across groups. Many of them hesitated, drew back from me instead of sitting forward, crossed their arms, and showed closed body language or negativity, both in words and non-verbally.

Additionally, when responding to Question Four, students showed more verbal hesitation. There was a shift in speech patterns across groups (with the exception of one student who grew more animated in expressing anger). Students paused more. Their eye contact rate decreased, and they used fewer words. That portion of the interview was the shortest, and probing questions failed to yield more verbal responses. Only one of the groups seemed eager to discuss the question, though they still showed negative nonverbals such as frowns, crossed arms, and leaning away.

**Insights into Research Questions**

This subsection is designed to give insight into the lines of inquiry within this experiment and examine the data in depth in terms of the research questions. The primary guiding research question for this doctoral thesis was: How is college freshman diversity awareness shaped through learning community seminar participation? This guiding question was addressed by the dynamic interaction between the three sub-research questions. As such, this section is organized in terms of the sub-research questions.

**Sub-question One: How do institutional forces impact the formation, attitudes and pedagogy of Learning Communities?**

Initial data analysis for Phase One found that college desired outcomes for Learning Communities were divided into goals. This material contained the mission statement, desired outcomes, and pedagogy for Learning Community design and implementation. Additionally, sample assignments were given to guide faculty in terms of course design and desired student
outcomes. As such, this literature serves as a model of institutional ideas and forces that guide and shape Learning Community creation and implementation.

The main thematic categories that emerged from Phase One data analysis were Learning Community goals and practices around Critical Thinking, Diversity Awareness, and Communication. These themes were found to be separate but related. Critical Thinking was intended to encourage reflection on the ideas around Diversity Awareness in the course. Diversity Awareness was grouped around both student knowledge of diversity based on learning, and student understanding of diversity awareness based on social interaction and collaboration. These themes were seen repeatedly in the in vivo codes (Refer to Table Four for examples), suggesting a strong institutional framework supporting Diversity Awareness in Learning Communities. Some examples of this include the goal of having students “adapt empathetically and flexibly to unfamiliar ways of being.”, and the ideal of being able to “appreciate diverse perspectives” by “fostering connections”.

This framework is further supported by the institutional desire to have students not only reflect upon ideas of diversity awareness and engage with other students, but also to engage in active discussion and communication of the ideas, both verbally and through reflective writing.

Sub-question Two: To what extent do demographic variables (race, gender, age) predict implicit bias as measured by end of semester implicit bias survey?

Sub-question two was measured by a mean D score calculation based on mean reaction time scores on the race-based Implicit Association Test measuring participant response and reaction time to Black and White facial primes. These D scores were then used in a multiple
linear regression analysis, with the IAT D score as the dependent variable, and participant demographics of age, race, and gender as predictor or independent variables.

The overall regression findings proved insignificant, with no significant grouping differences occurring for race, gender, or age. However, interestingly enough, almost all participants showed an atypical pattern of bias regardless of race, gender or age. This suggests that almost all participants in the experiment showed a reverse/lower pattern of implicit bias in terms of racial categorization. The methodological literature on the IAT by Greenwald et al (2003), supports this idea, claiming that that the negative pattern of D scores across participants can potentially be seen as lower cognitive biases in terms of unconscious racial classification. While the data collected did not provide a definite answer in terms of participant demographics predicting IAT score, it does suggest that there is a pattern of bias contrary to the expected White positive, Black Negative association.

Sub-question three: How do college freshman who've enrolled in learning community seminar perceive the institutional factors that shape diversity awareness at this campus and through the learning community seminar?

This question was assessed via Phase Three, the semi-structured group interviews were conducted with the students. Five questions were asked in order to better understand the interplay between institutional factors.

The first question assessed student knowledge of diversity awareness. This question established whether the institutional goals of the Learning Community (of promoting diversity awareness) were met in terms of student conceptual understanding. The research findings support this internalization of institutional ideals towards diversity awareness. Students
overwhelmingly indicated that diversity awareness pointed towards an acceptance and understanding of others, and that there was a need for a shift in both cognition and actions in order to have diversity awareness occur. Students were able to highlight the need to be “completely accepting of differences regardless of their orientation, background, gender race”, and that there was a need to “make the effort to get involved with other races and cultures”. This parallels with the institutional desire to have students “appreciate diverse perspectives”, suggesting that students were able to understand and learn the goals and ideals imbedded in the Learning Community structure.

The second question asked the students about diversity awareness at the college in general, both explicit and implicit. The students responded that they observed diversity in the social structure of the hallways (“you walk down the hall and you’ve got all different races…everybody talking to each other”) as well as in student organizations (“the cultural club accepts everyone”) and diversity symbols around the school (“flags all over the school representing different countries”). This question highlights both institutional efforts to promote diversity awareness ideals at the college, as well as the subsequent impact and student observation of diversity awareness at the college in general. These findings suggest that students are aware of institutional efforts to promote diversity awareness within the structure of the college.

Question three expanded the examination of student perception of institutional ideals and forces guiding diversity awareness at the college by looking at the Learning Community specifically. The strong findings across participants evidence the fact that this Learning Community promoted diversity awareness in terms of academic interaction (“sharing your own opinion, sharing what you have and what you’ve experienced”), and social interaction (“you
walk into class and none of us are the same. I got to be friends with a lot of people that I never
 got the chance to be friends with. I love it.”). More significantly, these interactions led to student
 perceptions of individual growth in terms of diversity awareness (“It opened my eyes up to
everything”, “I’m more aware of everything that’s going on”). These in vivo quotes suggests that
the institutional ideals of diversity awareness match student perceptions of their Learning
Community experiences in terms of diversity awareness, as evidenced on multiple levels (Course
material, Interactions, Reflection, and Personal Growth).

Having established student perception in terms of course factors that suggested
institutional forces and ideals around diversity awareness, Question Four examined
incongruences between diversity awareness ideals within the Learning Community and diversity
awareness at the college as a whole. The findings suggest that three primary areas of
incongruence exist: Lack of Interaction both socially and academically (“Everyone goes into
their own little world, no one breaks the mold”, “just look straight ahead in my other classes”),
Closed Mindedness (“Resistance to new ideas”) and Discrimination at the college (“lack of
acceptance and coldness from desk workers”, “people give lip service to diversity”). These
findings highlight the fact that while the Learning Community course was successful in
promoting and internalizing the institutional forces ideals around diversity awareness, these
ideals are not being implemented successfully by the college at large.

Question Five poses a solution oriented approach, integrating student internalized ideals
of diversity awareness to suggest possible solutions to fix the problems presented and discussed
in Question Four. The students pointed to the need for a potential administration restructuring in
terms of awareness (“more diversity in advertisements”) as well as increased administrative
support overall (“have more peer mentors”, “have a clearer explanation of the (college) process
to help non-native speakers”). This data highlights the student perception in terms of gaps within the college around diversity awareness, as well as suggesting that the college could improve diversity awareness by better institutional implementation of the college ideals around Learning Communities and diversity awareness.

**Summary Findings from Overall Analysis**

This subsection discusses overall summary findings from data analyses across the research questions, as well as providing researcher insight into unusual or interesting aspects of the findings.

The data analyses provides clear insight into the content of diversity awareness as an ideal, both in terms of desired institutional outcomes within Learning Communities, but also in terms of student perception. This increased gain in student perception and knowledge leads to increased student observation of both the benefits of the course, and of the ideals of diversity awareness embedded in the course. More interestingly, it leads to both student perception of diversity awareness at the college overall, but also to an increased awareness of the gaps and failures of the system.

It is noteworthy that most students were eager to comment on the positive aspects of diversity awareness on multiple fronts. They provided rich insight into their understanding of diversity awareness as a learned concept from the course. Additionally, they commented in depth on both diversity awareness at the college in general, and within the course in particular. Students showed positivity on both Question One and Three. This was in stark contrast to Question Four, in which students showed extreme verbal and nonverbal reluctance and hesitance to comment on negative aspects of the college in terms of diversity awareness incongruence.
This occurred despite student comments of increased openness and ability and willingness to share their opinions within the course.

Another interesting finding that occurred across the data was the existence of critical thinking around diversity awareness. This was evidenced first in terms of institutional forces and ideals, but then reflected in terms of low student bias in terms of standard negative stereotypic performance on the IAT. Additionally, it showed in terms of student concepts of diversity awareness as a definition, but also in terms of diversity awareness as conceptualized within the Learning Community.

Lastly, there were parallels between key themes of diversity awareness in terms of student perception and suggested college solutions to better implement diversity awareness. These parallels include the need for critical thinking and engagement mirrored by the suggestion for better outreach and student exposure to diverse ideas and cultures via increased panel discussion. Another parallel is the idea that diversity awareness is an active process requiring collaboration and support, which pairs with the suggestion for improvement around increased interaction and support culturally, as well as in terms of the institutional administration.

In conclusion, the data analyses support the idea of the dynamic interplay between institutional forces and student perception of diversity awareness. The institutional literature guides diversity awareness structure within the creation and implementation of Learning Communities, and the Learning Communities help teach and internalize the institutional ideals within the students. The students subsequently implement these ideals both within the class room academically, as well as socially outside the classroom, in terms of both community activities at the college, as well as general interactions in the college hallways. Additionally, student
complaints and feedback may serve as a guiding process for the college to restructure their implementation of diversity awareness ideals. This potential dynamic loop is discussed in greater detail in Chapter Five. Additionally, the research findings and conclusions are interpreted in terms of the literature and Gidden’s (1984) structuration framework. Lastly, Chapter Five gives broader insight about the topic of diversity awareness in terms of theory implications, future research, and implications for practice.
Chapter 5

Chapter five is an in depth interpretation of the findings from the data analysis, as well as an overview of the research process. This chapter seeks to interpret the key themes and findings in light of the literature and guiding theoretical framework. This chapter starts with a brief review of the study focus, purpose, and methods, as well as a reminder of the participant profiles. Key emergent themes from chapter four are then discussed using the literature and theoretical framework presented in chapters one and two. This allows for a reinterpretation of critical findings through a scholarly lens, lending the findings depth and perspective. Key findings are then summarized and presented, as well as implications for the findings in terms of development and insight into Gidden’s (1984) structuration framework. After the findings are highlighted and interpreted, suggestions for future research, as well as future study improvements are discussed. The chapter then discusses the key findings in light of practical application, with an eye towards institutional models and best organizational practices. The chapter ends with general conclusions in terms of a final study reflection, as well as a researcher reflection.

The focus of this research study was to investigate and examine the dynamic interplay between college student enrollment in Learning Community courses with the existing institutional structures and factors. This research led to an in depth exploration of how moderating and existing social structures and forces effect college student perceptions and awareness. This research was conducted over three distinct phases of data collection: Phase One was an examination of the college literature on Learning Community development, goals, outcomes, and mission, Phase Two was a quantitative web-based survey that assessed participant reaction time to assess demographic factors that effected student implicit bias categorization, and Phase Three was small group semi-structured interviews that explored students’ perceptions of
diversity awareness. The analysis approach used in this study to interpret and assess the research findings from the experimental phases was based on Miles and Huberman’s (1994) interactive analytic inductive processes.

Participant Profile

This subsection gives participant data in the study for participant age, gender, and race. All participants in the study were full time, first semester students enrolled in a Learning Community at a large urban community college in the Northeast. Across the phases of data collection, 21 participants consented to participate in this experiment. 15 of the participants were female, and 6 were male. Ten of the participants identified as White, 6 as Black, 3 as Latino, 1 as Asian, and 1 as Native American. The participants ranged in age from 18-37, with a mean age of 21.5 and a median age of 20.

Interpretation of Themes

This section reviews key research findings from the study in light of Gidden’s (1984) structuration framework. Links to critical research studies presented in chapter two are also discussed in order to enhance understanding and explanation of the research. Additionally, this allows for re-examination of the findings in light of the supporting literature.

Gidden’s (1984) structuration theory proposed an integrative model of social dynamics that did not focus only on individual experiences. Rather, Giddens proposed the idea that context occurs as a result of culture, and that cultural context gives shape to human experiences and perceptions. This led to a cyclical pattern in which individual agent actions and perceptions are learned, internalized, and reinforced by societal structure.

The findings of this study are strongly supported by Gidden’s (1984) framework. In
particular, the data suggests the cyclical pattern of perception internalization and norm reinforcement suggested by structuration theory. The ideals of diversity awareness as a key component of Learning Community pedagogy and objectives are clearly laid out by the college literature presented and analyzed in Phase One of data analysis.

Secondly, there is a non-stereotypical pattern of student perception in terms of racial identification, as suggested by the IAT mean D-scores found in Phase Two. Additionally, the pattern of scores seen is consistent with Greenwald et al (2003), who point out that this pattern is suggestive of lowered levels of cognitive biases. Greenwald, Poehlman, Uhlman, and Banaji (2009) also support the data findings from this phase, highlighting the fact that IAT reaction time scores serve as a strong and statistically valid and reliable means of predicting and understanding individual unconscious prejudices. Most significantly, the low reaction time scores shown by the participants in this study align well with the findings of Dunham, Baron, & Banaji (2007), who point to the malleability of implicit biases and subconscious perceptions as a function of cultural interactions and experiences. These findings from Phase Two are also consistent with Gidden’s (1984) framework, suggesting that institutional forces have a significant subsequent effect on agent perceptions and actions.

Most significantly, the semi-structured interviews gave insight into the reinforcing cycle suggested by Giddens (1984). Study participants had a clear and rich understanding of diversity awareness, pointing out the need for acceptance of others. More interestingly, they acknowledged there was a need for both changes in perception and cognition around diversity, as well as in actions. The participants should clear internalization of the ideals suggested by the Learning Community college literature and forces. This step is the first part of Gidden’s (1984) structure. Institutional forces impact agent perception and actions.
The study participants also showed deeper understanding of institutional forces towards diversity awareness at the college as whole, as well as within the course specifically. In particular, the students were overwhelmingly positive about their Learning Community experiences, sharing that it promoted diversity awareness and individual growth both academically and socially. The students also discussed the increased level of connection they felt in the course, citing the discussions and group work, as well as social engagement. The link between the increased interactions and their shift in terms of diversity awareness perception is highlighted by Giddens (1984), but specifically elaborated on by Hiraldo (2010).

Hiraldo (2010) points out that increased discussion and sharing of experiences around diversity awareness may potentially help increase individual understanding and lead to perception shifts by helping to embed non-white ideals into individual perceptions as well as an overarching institutional framework. Hiraldo (2010) expands on Giddens (1984) by taking a practical, specific application of structuration, and suggesting that the dynamic interplay of structuration between institutional forces and agent perception and reinforcing actions can be made more inclusive and diverse with the addition of diverse narratives and experience sharing. The participant observations found in Phase Three support Hiraldo (2010), showing that the Learning Community class welcomed discussion, reflection, and experience sharing from all participants.

However, the diversity awareness findings that occurred strongly within the course did not occur as significantly outside the course. While students did highlight and were appreciative of college efforts towards diversity awareness both in terms of clubs and opportunities, and also in terms of symbolic representation around the college, they also pointed out areas of diversity awareness incongruence at the college as a whole. The key findings from this suggest that the
interactive, experience sharing Learning Community model of engagement is not supported in other courses, and that others at the college appeared closed minded. Some students said that they felt that discrimination occurred at the college, from faculty and administration, and that this discrimination was both passive and active.

The college wide incongruences are interesting, as the college appears to have structural forces in play that should promote wide-spread diversity awareness engagement. The participant data suggests that this is happening partially at the college, but there are gaps where the ideals are not fully implemented. The literature gives some potential explanations for this. Jencks and Phillips (1998) point out that with cultural shifts in racial perception in the United States, biases tend to manifest more subtly and often unintentionally. Perhaps the gaps at the college are hallmarks of covert, imbedded institutional bias reinforced from prior years, and that, with time, these problematic areas will disappear due to positive widespread diversity awareness ideal reinforcement across the college.

Hiraldo (2010) suggests that without full experience sharing, true inclusivity will not occur, and the result will be a campus that pays lip service to the ideal of diversity awareness without real attitude change. While this does not appear to be the case at the college, it is a potential partial explanation, especially in light of the fact that the Learning Community pedagogy and structure focuses more heavily on experience sharing as a key component of course pedagogy.

This is unsurprising, as the positive Learning Community findings are in strong agreement with the research literature, particularly with Lieberman and Miller (2008), who highlight the multiple benefits of Learning Communities, including collaboration, as well as
active student participation and engagement. Grossman, Wineburg, and Woolworth (2001) also claim that focusing on sensitive and relevant issues within Learning Communities increased student engagement, collaboration, and connection. These factors suggested by Grossman et al (2001) can be seen in the data, where participants discussed the multiple ways the Learning Communities promoted discussion, especially of sensitive and topical issues.

Discussion & Conclusions

Having established the connection between thematic research findings established and presented in chapter four, and having interpreted the research findings in light of the literature and theoretical framework, this subsection gives broader insights into the topic of diversity awareness and institutional forces. Key broad findings are presented, as well as gaps or mismatches from the findings to the literature. Additionally, theory implications are discussed.

Key Study Findings

1. Learning Communities support increased knowledge and understanding of the ideals of diversity awareness (both within the course and at the college)

2. The Learning Community framework and structure is hallmarked by ideals of diversity awareness and the mission of increasing student reflection, critical thinking and collaboration via diversity awareness education.

3. Participants showed increased critical thinking around diversity awareness (both in comments and IAT score)

4. Findings support the dynamic interaction between institutional forces and student perceptions and reactions. This is shown both by internal course experiences, as well as by the incongruences between their course perceptions in terms of diversity awareness and their
reflections on gaps in terms of diversity awareness at the college as a larger model.

a. The Learning Communities have a guiding structure and institutional force of diversity awareness as an important ideal. This is taught and internalized within participant perception, and subsequently modeled and reinforced by the participants both in and outside the classroom.

b. However, despite a broader institutional framework and mission statement supporting diversity awareness, participants observed problematic areas at the college that could be improved upon.

_Incongruences between the research findings and the literature_

While the data and the literature appear to be mostly in alignment, there are a few areas of incongruence. Pascarella and Terenzini (1991) suggest that Learning Communities might have a bleed effect on the broader college model, in that the existence of successful Learning Communities at the college is linked with greater student involvement, awareness, and connection to the school and peers outside the classroom. While a few participants observed a partial bleed effect, the majority of students in the study pointed out the misalignment between their Learning Community course experience and some of their broader experiences within the college.

Additionally, Gidden’s (1984) structuration model also points to a dynamic process of influences, suggesting that structure can be complex and exist on multiple levels. With Learning Communities established as a mandatory and relatively well-funded component of the college, it is surprising that such transparent gaps exist between student experiences. In this particular instance, Gidden’s (1984) theory seems to support the idea of institutional forces and ideals impacting multiple agents, including faculty, administration and students. The research findings
from this study only partially support this idea. The institutional ideals fully impacted agents within the Learning Community framework, but they had a lessened or not fully realized impact outside the Learning Communities.

*Implications for theory development/New Model*

Gidden’s (1984) structuration theory lays out an inclusive social dynamic model that establishes the idea that institutional forces, ideals, and culture shape agent experiences and perceptions. Additionally, Gidden’s (1984) model proposes the dynamic, reinforcing cycle in which human experiences and institutional forces impact each other. While the data does support this model, Gidden’s framework does not discuss the idea of connectivity and engagement in depth. Hiraldo (2010) highlights the importance of shared experiences in terms of perception and action shaping. While Gidden does point out that structure and interaction impact perception, he does not fully explore the role that agent interaction on multiple levels can have before reinforcing and changing the content of the institutional norms.

As such, perhaps there is a need to better and further explore the mediating and inter-dynamic links between institutional forces, awareness and connectivity. It should be noted that not all colleges or institutional ideas support a model of connectivity. Indeed, even within the data, despite strong evidence of collaboration and connectivity, this was not modelled universally at the college. The lack of engagement and tolerance for perspectives was cited by the participants as a key incongruence. With better understanding of individual connectivity as a mediator of perception, along with institutional forces and ideals, insight might be gained into how to best promote a more generalized and applicable model of diversity awareness that could be implemented both at this college, and within higher education in general.
**Future Research**

While the findings of this study give unique insight into the development and institutionalization of diversity awareness within Learning Communities and as a function of institutional forces, there were some study limitations. This section reviews the study limitations and builds on them in light of the research findings to make suggestions for future research exploration.

First, due to practical constraints, this study was run as a case study. With college consent, it would be interesting to first examine other Learning Community courses to establish that the findings of this study are not unique to this group or instructor. While the college literature does establish a guiding framework for all Learning Community instructors, establishing that the framework is implemented and internalized across sections would increase finding validity.

Secondly, in light of the incongruences suggested by the participants, examining Learning Community courses versus non Learning Community courses would establish a better base line and control group in a future study. Additionally, this would give insight as to whether the incongruences suggested by the participants are occurring on multiple levels or whether they were uniquely observed and experienced by the participants in this case study. This would also allow deeper understanding of guiding institutional forces and permit better insight and application of Gidden’s (1984) theory, as well as increasing understanding of additional factors that may build on Gidden’s theory and impact the college.

It would also be interesting to conduct a follow-up longitudinal study following the participants of this case study. As the participants discussed the benefits of the Learning
Community as well as the experienced personal growth they experienced, observing the longevity of the Learning Community experience on their actions, perceptions and experiences would permit exploration of the impact of structural forces on their diversity awareness perception. Secondly, it would allow better observation of the interdynamic connection between their actions, and the college ideals. Lastly, it would lead to an examination of how their perceptions and growth impact future connectivity and influence on other agent perceptions and actions.

For these suggested future studies, it would be prudent to obtain permission to obtain demographics other than race, gender, and age. Harris (2008) highlights the link between socioeconomic status of students and academic success and connectivity. Perhaps using socioeconomic as a predicting factor in future research could give insight into participant perception and diversity awareness in terms of student bias. Conducting future research through the language and lens of socioeconomic status would be a useful and potentially rich tool for future comparative analysis.

Methodologically, while multiple coders were used, having a co-researcher for future studies would make semi-structured interviews smoother. Additionally, a co-researcher would potentially allow for more in depth interviews, with increased probing as a result of the dual researcher interaction. Secondly, having a second coder or co-researcher at the interviews would have permitted better non-verbal coding of participant reactions and responses.

Implications for Practice

In light of the research findings, it is important to consider the practical application and impact of the results in terms of educational policy, design, pedagogy, and best practices. As
such, this subsection discusses how the research findings could contribute towards best practices, including both educational and industrial applications.

This study gives insight into how an institutional structure based around diversity awareness ideals benefits students. Students showed increased engagement and comfort within the Learning Community framework. An application of this model to broader college frameworks and pedagogy would help facilitate discussion, and increase connection. Additionally, it will help Higher Education institutions grow as an entity, as well as establishing a better diversity profile. This implication is evidenced by the work of Hiraldo (2010), who points out that establishing diverse narratives imbeds non-white ideals and perception into existing structural frameworks, narratives, and norms. These efforts will hopefully lead to increased minority student enrollment, and retention. Additionally, this implemented pedagogy has the potential to increase student success on multiple levels. Students may improve academically, as well as increase social interactions and connections. Lastly, an increased college wide diversity framework focused on Learning Community ideals has the potential to impact students longitudinally, leading to increased self-confidence, connection, and workplace success.

Secondly, the research findings have strong pedagogical implications in terms of professional development and training. Reshaping institutional structure to more broadly modify staff and faculty training in terms of diversity awareness may potentially impact institutional culture, as well as individual perceptual awareness and behavior. Restructuring professional development may help eliminate the incongruences highlighted in the data, as well as positively impact how we support students at multiple levels. It may create a more inclusive model that supports multiple cultures, perspectives, and diversity profiles, as well as aid incoming freshmen,
as well as transfer and continuing students that still need support with connectivity and diversity acceptance. Applying the Learning Community model more broadly has the potential to extend diversity awareness to a college level acceptance, and, for students, beyond their initial Freshman year.

Additionally, the research findings have strong applications not only educationally, but also within the broader workforce. With increased US diversity, as well as world-wide connectivity and business practices, there is a need in the work force to model principles of diversity awareness and acceptances. Businesses could draw from the Learning Community model, applying ideals of diversity awareness, along with increased engagement, reflection, collaboration, and communication to their client practices, as well as to their own professional development training and work place meetings.

The researcher had the opportunity to report out on the research findings at meetings with select Learning Community faculty and administrators. The meetings were productive and positive, with Learning Community Higher Education faculty and administrators reporting that they were pleased by the positive results supporting the efforts and benefits of Learning Communities at the college. Interestingly, no one expressed surprise at the incongruences reported in the findings, claiming that they supported “gut feelings” about the college in general, and that the incongruence findings highlight the need for better application of a diversity awareness model at the college.

**Summary & Reflections**

This subsection serves as a final study overview, as well as a reminder of the study goals and findings. Secondly, this section is a researcher reflection on the research findings, as well as
This mixed-methods research provides an integrative approach using Gidden’s (1984) structuration theory to assess the impact of institutional forces on student diversity awareness perception. This research was conducted with the goals of adding to the established literature on the benefits of Learning Communities for students and at academic institutions, as well as examining diversity education through the lens of implicit bias perception and student understanding, perception and self-disclosed experiences.

The purpose of this research was to investigate the role that Learning Community courses played in college freshman diversity awareness, as well as their perceptions of institutional forces and ideals that impacted and shaped diversity awareness at the college. Furthermore, this doctoral thesis addressed the gap in the literature that occurs in terms of institutional norms and student diversity awareness by exploring how student Learning Community enrollment and participation impacted their perception and attitudes around diversity awareness as a function of and interaction between the college at large, as well as the course in particular.

The research findings support the idea that institutional ideals can have a strong impact on agent perception. Learning Community pedagogy was implemented, and the students showed increased diversity awareness perception. Additionally, the students felt that the Learning Community led to increased engagement, reflection, connectivity, and individual growth. The students pointed to the Learning Community as a positive model of diversity awareness, and, to a lesser extent, parts of the college. However, the students also highlighted areas of the college where there were inconsistencies between the diversity awareness idealized model, and the displayed attitudes of faculty, students and staff. This suggests that the diversity awareness ideals ingrained in the Learning Community framework have not been either fully implemented or fully
internalized at the college on a broader scale.

This doctoral thesis was a humbling and exciting experience for the researcher as a scholar practitioner, and as a researcher. The research process, as well as the data analysis and findings gave practical insight and evidence into a theoretical framework that had only been observed more passively by the researcher. Conducting this research allowed for active application of the theoretical framework in action.

Additionally, while the benefits of Learning Communities had been discussed and presented at the college on a general scale, this research study allowed the opportunity to explore and gain insight with a more active approach. Lastly, direct observation of the benefits of a diversity awareness framework on the students left the researcher with a sense of hope for the future. Seeing the joy that the students reported and expressed as a result of their Learning Community experiences led to the realization that this positive framework should be applied more broadly, as well as researched more in depth in order to best utilize the key components and benefits.
Appendix One

Phase Three: Semi-structured Small Group Interview Questions

1. What does diversity awareness mean to you?

2. How have you observed diversity awareness at the college?

3. What role does this Learning Community play in diversity awareness?

4. What role does diversity awareness play at the college? Are there incongruences between awareness in the Learning Community and awareness at the college?

5. Imagine an ideal future, in which the college as a whole is well-known as a model for diversity awareness. How/why might that happen?
References


Enrollment Data for Bunker Hill Community College. (Fall 2012). Retrieved from http://www.bhcc.mass.edu/inside/262


