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Motivational Triggers of Faculty Members: The process of teaching practice transformation

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Motivational Triggers of Faculty Members:
The process of teaching practice transformation

by

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ABSTRACT

In recent years, there have been sizeable shifts in higher education. These shifts include more diverse student populations, advancements in pedagogy, and research progress within discipline-specific knowledge (Austin, 2002; Braxton, 2006; Gibbs & Coffey, 2004; Sunal et al, 2001; Trigwell & Prosser, 1996). These changes along with student success have motivated faculty members to make changes in their teaching practices. However, few studies have examined the process and the factors that activate this teaching transformation among individual professors.

The purpose of this study was to describe the process and triggers of teaching practice change of higher education teachers. Data were collected and analyzed through qualitative techniques, specifically employing aspects of grounded theory. This study used two sources of evidence including semi-structured interviews, and demographic and
background information surveys. Participants were full time faculty members at a research extensive institution who were currently teaching, tenured or tenure-track. They had multiple roles of teaching, research, and academic service, and had attended at least one faculty professional development event from the faculty development program on campus.

Results revealed one major theme of relationships, which broke down into several categories: 1) student relationships, 2) colleague relationships, 3) mentor relationships, 4) institutional relationships, and 5) personal relationships. These relationships emerged as motivators or barriers to changes in university teaching. The findings of this study also illustrated smaller themes directly related to faculty members’ beliefs about teaching practice change, what they consider change to be, and how they experience teaching transformation. The results suggest an alignment between a professor’s teaching philosophy and their beliefs about teaching practice change. They also suggest that when professors experience a negative emotion or thought about their teaching practice, it prompts improvement in their pedagogy. Lastly, contextual and individual dynamics were found as key factors that play a role in the transformative process of post-secondary teaching.

This study provides a research framework to better explain the triggers and process of faculty member teaching practice change. This study verifies some of the findings from motivation, faculty professional development, and conceptual change research. Implications for faculty professional development suggest programs need to address the current shifts in student populations, belief systems that influence teaching
practices, and the promotion of collaboration between faculty members and within departments that promote positive relationships.
# TABLE OF CONTENTS

## CHAPTER 1 LITERATURE REVIEW

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>Professor Autonomy</td>
<td>2</td>
</tr>
<tr>
<td>The Context of Research Intensive Universities</td>
<td>3</td>
</tr>
<tr>
<td>The Transformation of Teaching Practices</td>
<td>5</td>
</tr>
<tr>
<td>The Role of Faculty Professional Development Programs</td>
<td>7</td>
</tr>
<tr>
<td>Motivational Factors in Teaching Practice Change</td>
<td>8</td>
</tr>
<tr>
<td>Perceptions</td>
<td>9</td>
</tr>
<tr>
<td>Internal Motivation</td>
<td>10</td>
</tr>
<tr>
<td>Conceptual Change at the Post-Secondary Level</td>
<td>11</td>
</tr>
<tr>
<td>Conceptions About Teaching Practices</td>
<td>13</td>
</tr>
<tr>
<td>Conceptions About Change</td>
<td>13</td>
</tr>
<tr>
<td>The Importance of Change</td>
<td>14</td>
</tr>
</tbody>
</table>

## CHAPTER 2 METHODOLOGY

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>17</td>
</tr>
<tr>
<td>Qualitative Inquiry</td>
<td>17</td>
</tr>
<tr>
<td>Conceptual Framework</td>
<td>18</td>
</tr>
<tr>
<td>Participants</td>
<td>21</td>
</tr>
<tr>
<td>Sample</td>
<td>21</td>
</tr>
<tr>
<td>Screening</td>
<td>22</td>
</tr>
<tr>
<td>Recruiting</td>
<td>22</td>
</tr>
</tbody>
</table>
Consent .......................................................................................................................... 23

Data Collection ............................................................................................................. 23
  Demographic and Background Survey ........................................................................ 23
  Semi-structured Interviews ....................................................................................... 24
  Data Security ............................................................................................................. 25

Data Analysis Methods .................................................................................................. 26
  Organizing Survey and Interview Data ...................................................................... 26
  Coding ....................................................................................................................... 27
  Validating ................................................................................................................ 29

Limitations of Methodology .......................................................................................... 30

CHAPTER 3 RESULTS .................................................................................................... 31

Participant Demographics ............................................................................................ 31

Participant Background Information ........................................................................... 34

Research Questions Findings ....................................................................................... 35

Research Question One .................................................................................................. 35
  Relationships ............................................................................................................ 36
  Context ...................................................................................................................... 40
  Outcomes ................................................................................................................ 44
  Beliefs ....................................................................................................................... 46

Research Question Two .................................................................................................. 47
  Description of Change ............................................................................................... 47

Research Question Three .............................................................................................. 49
<table>
<thead>
<tr>
<th>Change</th>
<th>84</th>
</tr>
</thead>
<tbody>
<tr>
<td>Implications of Research Findings</td>
<td>85</td>
</tr>
<tr>
<td>Contextual Factors in Academia</td>
<td>85</td>
</tr>
<tr>
<td>Changes in Teaching</td>
<td>85</td>
</tr>
<tr>
<td>Promoting Collegiate Relationships</td>
<td>87</td>
</tr>
<tr>
<td>Faculty Professional Development</td>
<td>88</td>
</tr>
<tr>
<td>Limitations</td>
<td>90</td>
</tr>
<tr>
<td>Recommendations for Future Research</td>
<td>91</td>
</tr>
<tr>
<td>Conclusion</td>
<td>92</td>
</tr>
<tr>
<td>APPENDIXES</td>
<td>94</td>
</tr>
<tr>
<td>APPENDIX A Initial Email to Participants</td>
<td>94</td>
</tr>
<tr>
<td>APPENDIX B Consent Form</td>
<td>95</td>
</tr>
<tr>
<td>APPENDIX C Demographic and Background Survey</td>
<td>98</td>
</tr>
<tr>
<td>APPENDIX D Interview Protocol</td>
<td>100</td>
</tr>
<tr>
<td>APPENDIX E Coding Index: Open Coding</td>
<td>103</td>
</tr>
<tr>
<td>APPENDIX F Coding Index: Axial Coding</td>
<td>107</td>
</tr>
<tr>
<td>REFERENCES</td>
<td>111</td>
</tr>
</tbody>
</table>
Chapter One

Literature Review

Introduction

Professors are typically described as teachers, advisors, and as experts in their field by definition from college students. However, faculty members at research intensive universities have additional functions including, but not limited to, the role of researcher, publisher, grant writer, and provider of academic service. In fact, teaching practices in and outside of the classroom account for just one-third of professor responsibilities. With multiple contending roles, what triggers an autonomous professor to activate change in their teaching practices? The aim of this research is to explore the experience of change in classroom practices through the eyes and voice of the individual professor, who makes independent decisions every semester regarding their instructional practices.

Research in this area has largely focused on the barriers to teaching practice change, pinpointing the institution itself as a major impediment (Austin, 2002; Bess, 1977; Boice, 1991; Diamond, 1993; Fairweather & Rhoads, 1995). Yet it is the autonomous professor who decides if, when, and how they will change their teaching practices. For the most part, autonomous changes are made to adapt to changing student demographics, new structures of knowledge, and modern teaching practices as well as to improve overall student success (Austin, 2002; Braxton, 2006; Gibbs & Coffey, 2004; Sunal et al, 2001; Trigwell & Prosser, 1996). While acknowledging that teaching changes do occur, this study will explore the daily triggers of the individual faculty member that set the transformation of classroom practices in motion.
The literature review summarizes the motivational factors that explain why faculty members make changes in their teaching, the context of research intensive universities, and the different ways in which individual faculty members transform. The chapter explains the small amount of inquiry that has been given to the subject of individual faculty member teaching practice change and, therefore, how poorly the triggers that initiate this autonomous change is understood. The literature review concludes with a summation of the importance of individual professor teaching practice change within a research intensive university.

Professor Autonomy

Individual faculty members are responsible for their teaching practices in their classes (Bess, 1977; Biggs, 1989; Boice, 1991; Caffarella, & Zinn, 1999; Cross, 1999; Cranton, 1994; Sandy et al., 2000). Professors assess students, deliver content, provide assignments, and decide how they will teach a specific student population. This is driven by academic freedom, the essential value of the professoriate (Bess, 1977; Boice, 1991).

The post-secondary university culture presumes academic freedom as the prerogative of the professoriate (Bess, 1977; Boice, 1991; Caffarella, & Zinn, 1999; Cross, 1999; Cranton, 1994; Sandy et al., 2000). With the individual professor managing classroom practices, he/she is an impetus for teaching practice change (Biggs, 1989; Davis, 1979; Gibbs & Coffey, 2004). Individual faculty members characterize what change is, identify the causes that assist them in addressing changes, decide what needs to be improved, pinpoint how their teaching will transform, and evaluate their experience of transformation. However, some professors may not be adapting so easily to the notion of change. Taking an in-depth look into the individual professor and his/her experiences in teaching and teaching changes is important for the success
of students and the process of higher education learning. This section will describe the impacts that research intensive universities have on individual professor change and how the importance of autonomy influences changes in post-secondary teaching.

The Context of Research Intensive Universities

The research has found that the university context has a role in impeding and/or motivating professor teaching practice change (Bess, 1977; Biglan, 1973; Boice, 1991; Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Diamond, 1993; Feldman & Paulsen, 1999; Gess-Newsome et al, 2003; Hativa, 1997; Hubbard & Atkins, 1995; Laird et al, 2008; Neumann et al.; 2002; Pintrich et al., 1993). In research universities that emphasize scholarly work and publications as a prominent function of the university, the institutional context does not necessarily provide a supportive teaching culture. Prior to entering the academy, professors come to the field of higher education with expertise in their subject but seldom with expertise in the role of teaching (Darling-Hammond, 1999, Ehrlich, 1998; Hativa, 1997; Tinto & Pusser, 2006). Graduate school is not always adequately preparing students for academic careers (Adams, 2002; Gaff, 2002), including teaching at the post-secondary level. In fact, teachers in higher education are the only ones, from elementary school to college, that are seldom formally trained to teach their own students (Tinto & Pusser, 2006). The professional training they receive is almost solely aimed at promoting their knowledge of the subject matter and research capabilities. In addition, few schools assign senior faculty members to mentor their new colleagues in teaching practices (Ehrlich, 1998). Unless professors come from a doctoral program in the field of education, teaching courses within disciplines are scarce (Ehrlich, 1998). The focus on research skills and
expertise in a discipline are emphasized over teaching abilities. Yet teaching, research and academic service are all facets of the professoriate at research intensive campuses.

Even so, institutional support for the improvement of teaching practices at research intensive universities tends to be lacking. The institutional context is one impediment that can impact teaching practice change (Biglan, 1973; Feldman & Paulsen, 1999; Hativa, 1997; Laird et al, 2008; Neumann et al.; 2002; Pintrich et al., 1993). When universities contemplate reform, they typically consider structural and cultural issues that affect the entire institution with no fundamental changes in individual classroom practices (Cuban, 1988; Woodbury & Gess-Newsome, 2002). Institutional forces, namely promotion and tenure, direct faculty interests away from teaching (Diamond, 1993). Faculty members believe that these types of forces do not encourage teaching as a prominent function (Austin, 2002; Bess, 1977; Boice, 1991; Diamond, 1993; Fairweather & Rhoads, 1995;), and believe that reward and promotion structures are primarily put in place for research output (Caffarella & Zinn, 1999; Diamond, 1993; Gess-Newsome et al, 2003; Hubbard & Atkins, 1995).

Given the context and structural organization of a university in which teaching is not emphasized, it is challenging for the autonomous professor to change their instructional strategies. Faculty members’ main concern is equalizing the efforts put into teaching with all of the other demands required within their position. Preparation for lectures has been reported as a difficult task, along with balancing the workload of scholarly writing and research (Austin, 2002; Boice, 1991; Diamond, 1993; Fairweather & Rhoads, 1995).

Additionally, institutional expectations of professor workloads contribute to difficulty in teaching responsibilities (Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Gess-Newsome et
The professor workload includes how many courses are taught per semester, how many committees are required to be involved in, how much academic service is necessary, how much ongoing education is called for within a specific discipline, and how much ongoing research is expected. When research, discipline, and service expectations take precedence over teaching functions, unsupportive teaching cultures persist.

When supportive teaching cultures (Feldman & Paulsen, 1999) do exist, they play a role in facilitating and motivating faculty members to transform their teaching. Specifically, supportive campus cultures are defined as having high-level administrative commitment, faculty involvement, and a teaching demonstration or pedagogical colloquium as part of the hiring process. Further, collaboration among faculty, supportive department chairs, systems in place to reward faculty for their teaching performance, and rigorous evaluation of teaching and research are reported as supportive teaching cultures (Feldman & Paulsen, 1999).

Knowing what motivates the individual transformation of faculty member’s teaching practices, separate from institutional factors, is the next step of exploration. The question becomes what motivates faculty members at a research intensive university to want to change their teaching practices?

*The transformation of teaching practices*

Changes in teaching practices for the sake of student outcomes are merely one reason for individual professors to improve and adapt their teaching. Other reasons for professorial change in the higher education system are: 1) student populations are becoming more diverse (Austin, 2002); 2) educational research is identifying more effective teaching methods (Austin, 2002; Sunal et al, 2001); and 3) scientific research is creating more knowledge across disciplines.
(Sunal et al, 2001). This ever-changing student population, advancement in teaching practice research, and fresh content within subject areas is shifting the manner in which instruction is provided in post-secondary education. These changing dynamics are leading professors to adapt to specific student cultures, discipline-oriented teaching practices, and changes in their instructional strategies overall (Austin, 2002). Given these changes in the university context, what factors specifically motivate an individual faculty member to transform elements of his/her teaching and what triggers the routes they take to transform these practices?

Largely, the transformation of teaching practices is resisted by novice faculty members (Alters and Nelson, 2002; Boice, 1991; Hativa, 1997). Boice’s work indicates that change in teaching practices tends to be a low priority for new professors (1991). He investigated how new faculty establish their teaching styles by documenting the teaching experiences of new faculty over a two year period. His study highlights how initial teaching experiences compared between a “teaching” campus and at a “research” campus. The results at both campuses were similar, with new faculty reporting concerns for teaching well but with little support for how to do that from the institution. New faculty stated that the emphasis of autonomy during the first years of teaching was overwhelming and that the institutional mentality of “sink or swim” influenced their motivation to improve their teaching (Boice, 1991).

Both new and tenured faculty members tend to show resistance to change their teaching. Alters and Nelson (2002) posit that faculties pay little, if any, attention to the empirical and theoretical studies that ask what methods of teaching are most effective for general or particular groups. Faculties discount the research and insist on teaching based on personal experience (Alters and Nelson, 2002; Boice, 1991; Hativa, 1997). Faculty members are inclined to teach as
they were taught, following what was modeled for them when they were students. Therefore, they avoid suggestions that traditional approaches might be less than optimally effective. This strategy may have been effective in the past when student populations had characteristics similar to their educators, and discipline specific knowledge did not change as rapidly as it does now. However, with the changing populations of university students, learners are more diverse. With modern research, knowledge is current and applicable to today’s students. Faculty need to adapt their teaching strategies to fit this ever-changing student population and discipline-specific information (Austin, 2002).

The individual professor finds him/herself in a research intensive university culture where change in teaching is essential, research is prominent, and challenge is inherent with competing demands. One resource for professors to take into account when considering improving and/or changing teaching practices is the faculty professional development program on campus.

The role of Faculty Professional Development Programs

Universities establish faculty professional development programs to assist professors with their teaching. The Great Lakes Colleges Association defines professional development among faculty as any activity that provides an opportunity for a faculty member to apply existing professional competencies in a new area, to improve existing competencies, or to develop new ones (Professional and Organizational Development Network in Higher Education, 2009). Specifically, faculty professional development emphasizes change as the central component to professor growth (Biggs, 1989; Davis, 1979; Gibbs and Coffey, 2004). Experts in the area of faculty development are thought of as change agents since their primary goal is the modification
of instructional practices in the classroom. The faculty professional development model advocates for teachers to study their students’ learning and see what misconceptions they hold as teachers so that faculty members can reconcile and change those aspects of their teaching. This transformation is considered positive and encourages good learning (Biggs, 1989; Gibb & Coffey, 2004).

The central purpose of faculty professional development programs is to provide opportunities and training for the improvement of faculty members teaching practices. However, there is resistance to instructional change by the autonomous professor. This resistance continues with professors refraining from participating in faculty professional development programs.

**Motivational Factors in Teaching Practice Change**

Motivation has commonly been researched as a psychological process (Moreno, 2010). It involves the direction, volition, and will of behavior (Kleinginna,Jr. & Kleinginna, 1981). The central behavior for this study is the behavior to change teaching practices and the motivation triggering such change, meaning factors that initiate and activate transformation.

Faculty may be attracted to changing their instructional strategies and may be attracted to specific teaching methods, but they may not know how to effectively change their current practices. This lack of information coupled with institutional barriers, strengthens faculty member resistance to change. Although all of this occurs in the larger context of the university climate, there are several factors of teacher transformation that operate at the individual instructor level on a daily basis. The motivation behind a faculty member’s decision to change their teaching practices and course delivery is one of these individual factors, specifically the everyday triggers that initiate change in their teaching.
Perceptions

Faculty perceptions in professional development indicate that college faculty may not perceive themselves as needing general training for improvement in teaching practices. However, faculty do perceive themselves in need of continuing education for the sole purpose of aiding student engagement (Sandy et al., 2000). Yet faculty members underscored they would not seek out professional development until the campus climate clearly rewards teaching and places it on par with scholarly research. Faculty members provided specific examples of a supportive university climate in which the tenure process is based on standards for quality teaching, teaching excellence is valued within personnel evaluations, and the institutional philosophy supports the development of teaching excellence (Sandy, et al., 2000).

In support of faculty perceptions, the majority of higher education studies state that the institutional system is the main obstacle in transforming individual teaching practices (Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Feldman & Paulsen, 1999; Gess-Newsome et al, 2003). When institutions impede supportive mechanisms and incentives, what motivates an individual faculty member to change his/her teaching practices? The triggers for change are not clear from the documented work. To keep up with the current changes of the academy as well as the dynamics of the research intensive university, a new path of inquiry focusing on individual faculty members is vital. Investigating the factors that facilitate teacher practice change can reveal the individual motivation of professors.

Faculty professional development can learn from the process of professor transformation and meet the motivational needs of individual professors who want to change their teaching practices. Approaching faculty professional development with the understanding of the
individual professor’s change process may be one way to increase faculty member’s participation in professional development. In turn, this can increase teacher practice change to fit the changes of the university system and promote student success. Nonetheless, it does not make sense to develop or transform faculty teaching until it is known what triggers prompt professors to improve their instructional strategies in the first place.

*Internal Motivation*

One example of motivation providing an impetus to change in higher education is teacher efficacy (Bandura, 1989; Dunkin, 2002). With this form of motivation, a person must believe in his or her capability to perform behaviors, must perceive that positive results outweigh the negative results, and must value the outcomes that may occur as a result of performing specific actions. Outcomes are filtered through a person's expectations or perceptions of being able to perform the behavior in the first place (Bandura, 1989). In essence, a faculty member’s teacher efficacy may prompt transformation in instructional strategies.

Dunkin (2002) studied teacher efficacy at the University of Sydney. Employing Bandura’s theory that efficacy expectations determined how much effort people will expend, and how long they will persist in the face of obstacles and aversive experiences, Dunkin found that teacher efficacy can determine willingness to participate in professional development activities. Additionally, he found that even those who are confident of their competence might abandon their efforts in the face of an unresponsive environment or punishment (Dunkin, 2002). These outcomes indicate that teacher efficacy and context impact the individual faculty member’s change process. Although high teacher efficacy is an important factor in teaching practices, it is not a guarantee for individual teacher change or development (Bandura, 1989; Dunkin, 2002).
Achievement motive is another documented trigger prompting faculty to invest time and effort in their teaching (Davis, 1979; Hativa, 1997). The professor makes changes once they assess the probability of the change’s success, and assess the probability of payoffs for themselves and their students. Faculty members gain a sense of achievement and intrinsic satisfaction through this change process.

Research shows intrinsic motivation to be a supportive factor in faculty needs, faculty satisfaction, and faculty change (Bess, 1977; Hativa, 1997; Pintrich & Schunk, 2002). Hence, an individual faculty member’s internal motivation such as personal interests, values and beliefs need to be explored as teaching change research advances. By investigating faculty member teaching practice change on an internal level, a new professional development approach can be taken to address the autonomous faculty member and the transformation of their instructional strategies. Moreover, knowing the intrinsic factors that affect and foster teacher practice change may contribute to the understanding of faculty member conceptual change (Pintrich and Schunk, 2002).

*Conceptual Change at the Post-Secondary Level*

Faculty members typically change their teaching practices in two ways, either behaviorally and/or conceptually. Exploring both types of change processes will help in articulating motivational patterns within individual professor teaching changes.

Teaching improvement at the higher education level underscores conceptual change. Fundamental changes to the quality of teaching and learning may only result from changes to conceptions of teaching (Devlin, 2006; Kember & Kwan, 2002; Trigwell & Prosser, 1996). There are two areas of conceptual change pertinent to faculty teaching practice change. The first
is faculty member’s conceptions about teaching practices. The second is faculty member’s conceptions about change. Both types of conceptions contribute to the understanding of the transformative process in higher education teaching.

The conceptual change theory is based on Piaget’s notions of disequilibrium and accommodation (Pintrich et al., 1993). It is a model of cognitive change. It is a complex process that starts with discontentment and ends with acclimation. This disequilibrium is also known as cognitive dissonance. Coined by Festinger in 1957, cognitive dissonance is a condition in which the faculty member has beliefs or knowledge that conflict with each other or conflicts with existing behavioral tendencies. However, Festinger’s theory blends cognition and motivation. He explains that an individual’s experience of dissonance resulting from conflict between two cognitions and/or conflict between cognition and behavior, can lead to change. Does a faculty member’s dissonance in their teaching lead to actual change? Feldman (1999) claims that discontentment alone does not necessarily lead to the accommodation of a new practical teaching concept or theory. New concepts have to be sensible, beneficial, enlightening and illuminating to shape the direction of a professor’s thinking (Feldman, 1999; Pintrich et al., 1993).

Prior research analyzing and/or applying the conceptual change model has focused on students’ change in thinking more than teachers’ change in thinking. The goal in this research is to learn about conceptual change by examining it from a higher education teacher perspective. In a similar fashion to students bringing conceptions and/or misconceptions to the classroom, teachers bring their own conceptions/misconceptions about teaching to the classroom. Although some studies have been conducted on conceptual change of teachers, these studies have focused on content knowledge rather than teaching practice knowledge. What has been missed is the
investigation of the conceptual change process among individual professors’ and their teaching practices.

Conceptions about Teaching Practices

One study about teacher conceptions used higher education teachers’ personal practical theories (or rules of thumb) and conceptual change as the framework for exploring changes of faculty classroom practices on an individual level (Gess-Newsome et al. 2003). The results suggest that personal practical theories are the most powerful influence on instructional strategies. The findings also highlighted the critical role of disequilibrium in motivating fundamental teaching practice change. Ultimately, Gess-Newsome et al (2003) theorized that the foundation of systemic change is individual change.

Devlin (2006) agrees that conceptions about teaching held by faculty members play a role in improving teaching. She questions the impact teaching conceptions have on teaching improvement. Specifically, Devlin asks if change in conceptions leads to change in teaching practice or vice versa, or if changes in conceptions and practice might occur together. How conceptions of teaching play a part in the process of higher education teacher improvement is a valid extension of the current research.

Conceptions about Change

Conceptions about teaching practices are only one aspect in transforming an individual professor’s classroom practice. Conceptions about change are also a factor (Mcalpine & Weston, 2002; Sunal et al., 2001). Sunal et al. (2001) focused their study on science teachers in higher education and their barriers to change. The researchers concluded that post-secondary teachers’ conceptions of the change process inhibited successful action toward teaching practice change.
These conceptions include faculty members need for change, barriers to change, and the actual process of changing teaching practices.

Mcalpine and Weston (2002) addressed conceptions related to change efforts. They deduced that the process of conceptual reflection plays a role in transformation. Not knowing what to change, not knowing how to change it, and not being able to implement the change can disrupt the reflective process and motivation of teacher improvement.

There is much that can be learned from a careful look at cognitive conceptual change regarding teaching practices. Uncovering conceptions of change among university teachers and understanding the functions that these conceptions play in facilitating or impeding teaching improvements will shed light on the individual change process. Additionally, exploring behavioral change is warranted because teaching is knowledge in action (Shulman, 1986) or a set of behaviors.

The Importance of Change

Although research on change has been done, individual professors have not been the focus of teacher transformation studies. Instead, research reports institutional barriers and institutional incentives to teaching practice change (Bess, 1977; Biglan, 1973; Boice, 1991; Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Diamond, 1993; Feldman & Paulsen, 1999; Gess-Newsome et al, 2003; Hativa, 1997; Hubbard & Atkins, 1995; Laird et al, 2008; Neumann et al.; 2002; Pintrich et al., 1993). Yet it is shown that when professors improve their own teaching, the quality of student learning increases (Braxton, 2006; Gibbs and Coffey, 2004; Trigwell & Prosser, 1996). Uncovering how individual faculty members experience their own teaching transformation will help us know what to change, how to change and when to change.
teaching practices to increase the quality of student learning and keep up with current changes in the academy (Braxton, 2006; Feldman & Paulsen, 1999; Gibbs and Coffey, 2004; Trigwell & Prosser, 1996).

Motivational research has found that intrinsic factors of faculty members provide everyday triggers, or factors that activate teacher practice change (Bandura, 1989; Davis, 1979; Dunkin, 2002; Hativa, 1997; Kember and Kwan, 2002; Pintrich et al., 1993; Trigwell & Prosser, 1996). These intrinsic factors include personal values and beliefs about teaching transformation, and behaviors leading to it. This study will investigate how these intrinsic factors are everyday triggers for individual professor change.

Without more evidence about how intrinsic factors trigger teaching practice change, professional development programs cannot customize or fully address individual faculty member needs. Faculty professional development programs are missing vital pieces of information about the individual professor, in particular, the everyday triggers that motivate individual faculty members to change their teaching practices. Developing a rationale for what motivates changes in higher education teaching practices will have direct implications in professional development programs (Hubbard & Atkins, 1995; McKellar, 1996). This examination will inform faculty professional development programs on how to access and educate university teachers about the process of their own change at research institutions. At the same time, further change research will facilitate classroom practices that adapt to present day student populations and teaching practices. Ultimately, defining ways to motivate teaching practice changes to fit the modern day research intensive university will lead to teaching improvement and directly impact the quality of student learning.
This study questions why college teachers change their teaching practice. Specifically, the research questions are (1) Why do college professors change their teaching practices, (2) What do faculty members consider change to be?, (3) What conceptions do faculty members hold about teaching practice change?, and (4) What is the process of change that faculty members experience?
Chapter 2
Methodology

Introduction

In this study, interviews with faculty members were conducted and the transcripts of those interviews were qualitatively analyzed in order to draw conclusions about individual cognitive and behavioral change, about the triggers or factors that initiate change in higher education teaching, and about how professors conceive change within their teaching strategies. This chapter will summarize the methodology, procedures, and participant selection of this investigation. The chapter concludes with a presentation of the methods that were used to analyze and interpret the data.

Qualitative Inquiry

This study investigated the process of change among individual teaching practices at the post-secondary level. The process of transformation was explored through the eyes and voices of higher education teachers to understand the triggers, or factors that initiate change, the conceptions professors hold about teaching practice change, and the experiences of individual faculty members’ change. Realistic accounts and viewpoints emerged from the participants about the central phenomenon (Creswell, 2007) of teacher practice change. The exploratory nature of this method assisted in answering the questions this study is based on: Why do college professors change their teaching practices? , what do faculty members consider change to be? , what is the process of change that individual faculty members experience? , and what conceptions do faculty members hold about teaching practice change?.
In alignment with grounded theory, this study is attempting to explain people’s actions (Glaser & Strauss, 1967). Coding, conceptualizing and categorizing the separate triggers, conceptions and transformative process of professor classroom practices is providing an encompassing understanding of individual faculty member’s experience of change in their teaching.

**Conceptual framework**

The conceptual framework refers to a particular set of beliefs that guide action throughout an investigation (Lincoln & Guba, 1985). These views encompass the epistemology and assumptions of the qualitative researcher, shaping and informing research practices. Constructivism is the conceptual framework this study is based on.

Constructivism is a learning theory emphasizing the way in which knowledge is internalized by learners (Moreno, 2010). Generally attributed to Jean Piaget, learners construct new knowledge and transform old knowledge related to their own internal representations of the world (Bruning et al, 2004). This internal representation is influenced by prior existing knowledge, the learner’s background culture, the social dynamics included in the learning process, and the learning context. In classrooms where constructivism is adopted, teachers encourage knowledge formation while students actively plan and direct their own learning.

The theory of constructivism has been adopted and enhanced by leading cognitive psychologists (i.e. Rogoff, 1990; Schon, 1987; Vygotsky, 1978) because it is seen as a vital process to information processing and cognitive development (Bruning et al, 2004). It has also been defined as one of the major conceptual frameworks in which research studies are designed upon (Creswell, 2007). As an educational psychologist and a qualitative researcher, my approach to this project has been heavily influenced by the cognitive theory of constructivism, which
essentially holds that learners take new information and interpret it based on their existing knowledge. Drawing on my own teaching and learning experiences, I believe that learning evolves through a process of self-discovery and as learners we attach meaning to knowledge that makes sense to us. I also believe that understanding how knowledge is constructed and processed is crucial for learning and for change because it is with this procedural knowledge that we can reflect on our cognitive processes.

Therefore, constructivism is the foundation for employing an interview method for this study. The interview questions were used to allow participants to respond with their personal meaning to accounts of instructional transformation. Specifically framing questions around what faculty members consider change to be, what the process of change is that faculty members experience, what the factors are that influence teaching practice change, and what types of change faculty members characterize their transformation to be, revealed the internal processes that occur in their experiences. For example, the interview protocol includes questions about faculty members’ prior experiences at teaching and at being taught because those form the foundation on which they will construct their teaching change.

The interactions between the interviewer and interviewee aid in faculty members constructing their knowledge about historical and current experiences regarding the phenomenon of teaching practice change. I as the researcher was able to develop a rich understanding of their conceptions, processes and triggers of change from the participants’ responses and the participants were likely to gain a deeper understanding of their teaching practices through the process of interviewing.
Additionally, the analysis of this study was inherently designed with constructivism as a foundation. Some techniques in grounded theory use constructivism. For example, codes. When participants construct and therefore explain their experiences in the interview process, it is subjective in terms of their own world. Culture, context, development, prior knowledge, and social interaction impact ones’ interpretation of experience and human phenomena. The codes emerging in the analysis illustrate this subjective and constructive notion through the voice of faculty members. Constructivism transcends the coding process.

As the researcher, I construct meaning of the codes, categories, concepts and themes that emerge from participant responses with possible preconceptions (i.e. constructivism framework) and assumptions (i.e. professors want to transform their teaching). Essentially the researcher is in a constructivistic role discovering the change process of individual faculty members. Although the persona of the researcher is an influence in the study, the structured system of grounded theory analysis is founded on objectivity (Glaser, 1967) and would not be viewed as constructivism. Relationships between concepts are constantly compared from empirical data (Glaser, 1967).

When it comes to faculty changing their teaching, constructivism has several implications. First, that teachers are, in fact, learners. Second, that their teaching and their change in teaching represent learning on their part. Third, professors’ prior knowledge about students, teaching, and teachers does matter when considering how they teach. Therefore, the inquiry of teaching practice change among university professors is conducted through the lens of constructivism.
Participants

Sample

The target population in this study is full time tenure-track or tenured assistant, associate, or full professors who have multiple roles of teaching, research, and academic service as part of their faculty position at a research intensive university. I elected to use 20 participants. Creswell (2007) suggests that a typical grounded theory study includes 20 interviews because they collectively saturate the categories that emerge during analysis. Data saturation occurs when the researcher is no longer hearing or seeing new information (Creswell, 2007). Saturation was achieved in this study with 20 participants. To represent the heterogeneity of the target population, I attempted to represent diverse disciplines, genders, and ranks from the participant pool.

Participant selection was based on criterion sampling, a method of selecting participants who match the criteria of a study (Lincoln & Guba, 1985). The criteria for selection included faculty who were full time, tenured or were on the tenure track process, who had multiple roles of teaching, research, and academic service as part of their faculty position at a research institution and who had attended at least one faculty professional development event from the faculty development program on campus as a faculty member. The faculty development program attendees are a population who has volunteered to attend one or more events since the commencement of the program in 2006. Hence, some consideration of change or reflection of their teaching practices and their course design is assumed among the sample.
Screening

The sample was drawn from a roster of faculty members who have attended a minimum of one campus based faculty professional development event. This list included each faculty member’s rank, discipline, and date they attended one or more events along with their contact information. This information informed the researcher if the faculty member met the sample criteria, and a potential participant directory was made. From the participant directory, 298 faculty members were assigned numbers randomly. The first set of 20 faculty members from the assignment was then recruited. Before participant recruitment, any information regarding faculty members who did not fit the sample criteria was destroyed.

Recruiting

The first 20 potential participants were contacted through email. The email message introduced the researcher, explained the nature of the study, provided logistical information about the interview process and solicited potential participants to participate in the study (see Appendix A). Email responses received within four weeks determined that six faculty members would participate in the study. The sample size did not meet the objective of 20 faculty members at that time. Therefore, the second set of 20 potential participants was solicited by email. Within four weeks of the second recruitment phase, six more faculty members positively confirmed participation. The third and last phase of the rolling process of contacting 20 faculty members, recruited 8 faculty members within a four week period. At that point the sample size was achieved.
**Consent**

Times and dates were set up by email with each participant to meet face to face to interview at a place of the participant’s choosing on the university campus. The initial recruitment email informed participants that the meeting would take approximately 60 minutes. Additionally, this participation time was reiterated in the consent form. The consent form was sent out via email to each participant after they confirmed they would participate in the study. Each participant either signed the consent form electronically or scanned a manual signature and sent it to the researcher via email. The survey and interview did not begin until each participant signed a consent form (Appendix B). As part of the consent form, participants accepted permission for the researcher to follow up with any further questions and clarification in their initial responses (protocol question # 19). Participation was voluntary and participants were required to give written consent prior to their participation. Additionally in the consent form, each participant was assured that his or her answers and experiences were completely confidential.

**Data Collection**

*Demographic and Background Survey*

The first component of data collection included a demographic and background information survey (Appendix C), which was administered on-line. Demographic information included ethnicity, gender, rank, and professional teaching experience at the academy. Background information included faculty professional development attendance and experience and the time the participant thinks they currently spend on research, teaching and service in the professoriate. Once the consent form was completed and received by the researcher, participants
were sent a follow-up email asking to complete a ten minute survey approximately 48 hours before the set interview meeting. Upon completion of the survey, the researcher read the survey responses to personalize a few interview questions (e.g., current courses being taught).

*Semi-structured Interviews*

Understanding why college teachers change their teaching strategies was measured through a self-report protocol in a semi-structured interview. Semi-structured interviews are methods of qualitative research that flexibly explore themes, allowing questions to be brought up during the interview as a result of what the interviewee says (Glesne, 2006). The interviews gathered explanations and descriptions of faculty members’ experience of change in their teaching. Faculty members were interviewed individually, using a pre-designed protocol of open ended questions (Appendix D).

All participants permitted audio recordings. Hence, each interview was recorded using a Sony audio recorder. Hand-written notes were also thoroughly taken during each interview. Each participant was given as much time as he/she needed to finish the interview.

The interview protocol explores four main areas of change amongst faculty: (1) teaching practices, (2) the triggers of their change experience(s), (3) the process(es) of change itself, and (4) reflection of their change experience(s). The interview protocol was designed to assess the concepts in the research questions (Table 1) and introduce the scope of the interview topic (Spradley, 1980). Interview questions # 5 through # 9 inquire about the teaching practices of the professor as well as the resources they believe they have access to on their university campus to assist them with changes in their teaching. Interview questions # 10 through # 18 solicit
information about the factors that facilitate teaching changes, the process of how change was made, the emotions, behaviors and thoughts behind the change process, and the potential

Table 1: Alignment of interview protocol, research questions and literature

<table>
<thead>
<tr>
<th>Research Question</th>
<th>Teaching Practices</th>
<th>Teaching Practice Change</th>
<th>Faculty Prof Development</th>
<th>Protocol Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>Why do individual faculty members change their teaching practices?</td>
<td></td>
<td>X</td>
<td></td>
<td># 8, 10</td>
</tr>
<tr>
<td>What do faculty members consider change to be?</td>
<td>X</td>
<td>X</td>
<td></td>
<td># 7,13-15</td>
</tr>
<tr>
<td>What conceptions do faculty members hold about teacher practice change?</td>
<td>X</td>
<td>X</td>
<td></td>
<td># 3, 6</td>
</tr>
<tr>
<td>What is the process of change that individual faculty members experience?</td>
<td>X</td>
<td>X</td>
<td>X</td>
<td>#1,2,8-23</td>
</tr>
</tbody>
</table>

impact that context plays within the transformation of higher education teacher’s practices. The protocol questions are anchored in the context of faculty life and academic culture to connect with the participants and provide a framework for both the researcher and participants (Glesne, 2006).

Data Security

A discrete number was assigned to each participant’s demographic and background information survey in the upper right hand corner. Each survey was numbered sequentially by date completed (e.g., forms completed in December before those completed in February). All survey responses were transferred into a word document and backup copies were made. Further, backup copies were printed and stored at different secure locations. All recordings and all notes
were transcribed onto an HP computer and backup copies were made. Additionally, backup copies were printed and stored at different secure locations. Within one year of the dissertation defense, all identifying information of participants and recordings will be destroyed.

Data Analysis Methods

This study utilized components of grounded theory for data analysis (Glaser & Strauss, 1967). Codes are identifying anchors of key points of the data (Glaser & Strauss, 1967). In this study, the phrases and words emphasized from faculty members’ responses about triggers, conceptions, and transformation are the initial codes.

The concepts are collections of codes of similar content that allow the data to be grouped (Glaser & Strauss, 1967). For example, the codes of “students.”, “mentors”, and “colleagues”, and can be grouped together as like terms that show a pattern among individual professor responses about influences of change.

When these clusters of codes are labeled, they are categories. Categories are broad groups of similar concepts that are used to generate a major theme (Glaser & Strauss, 1967). From the example used above, “relationships” emerged as a major theme.

This portion of the report provides an explanation of the analysis of the surveys and semi-structured interviews. It includes descriptions of how the data were gathered and the analytical strategies employed.

Organizing Survey and Interview Data

Demographics were organized to describe the sample. Upon completion of organizing data from the demographic and background survey, discrete numbers were written on each interview transcription set in the upper right hand corner to match the participant’s survey.
Numbers were then assigned to each survey and each transcription page (in sequential order) in the left hand corner. Therefore, when coding the data, references were made in two forms. The first was participant number and the second by survey and transcription pages.

Coding

The process of analyzing qualitative data is ongoing and occurs throughout the study as data is collected. There are two reasons for this. First, the coding from one interview can influence a subsequent interview. This occurred in this study. The sequential order of the questions was changed by the researcher after coding a handful of interviews. Due to the nature of the responses and natural transitions observed by the interviewer, the protocol arrangement was changed to align with participant responses. Second, saturation is continually assessed while each piece of data is collected. This was completed, and saturation was not attained prior to the concluding interview. Hence, the coding process involved working on one interview transcript at a time. Each item response was read until all items were completed for that one specific interview.

Analysis began with open coding (Strauss & Corbin, 1990) when each interview transcript was read in order to develop a list of general codes regarding the process of faculty member teaching practice change. In open coding, codes are identified. These are reoccurring words or ideas that emerge from the participant interview responses for each of the interview questions. For example, the word “students” was highlighted in the transcribed text, and this equated to a code. All of the general codes were then recorded in an Excel document from this inductive method (Appendix E), developing an indexing system (Eisner, 2003).
The coding index is a tool derived from open coding, used to capture the gist of the participants’ responses using coding categories. The coding index was designed to represent codes for each individual research question. It helps identify preliminary codes and broad patterns in participants’ answers. Categories were assigned according to what the respondent directly stated. Concrete evidence was examined to support each data item. The goal of open coding was to describe what participants said in order to identify collections of codes of similar content that allows the data to be grouped (Glaser & Strauss, 1967).

Axial coding (Strauss & Corbin, 1990) assembles the data in new ways after open coding. It is employed to organize and establish what emergent themes developed from the open coding. Categories and codes were analyzed for connections and detailed patterns. The transcripts were read to look for responses (i.e. words or phrases from participants) that compare and contrast, and/or determine specific concepts that help understand faculty change within their teaching. For example, the researcher identified the word “students” from the interview responses. The researcher then re-read each of the statements or paragraphs that included the concept of “students” and completed the coding index by marking an “x” in the “student” code box if and only if the participant stated that specific code (Appendix F). This process established if the code was evident throughout the participants’ responses. “Students” was a clear pattern in the data and was labeled for further analysis in the selective coding phase. Also, axial coding illustrated if the code was depicted within each research question and across the research questions as a whole. This process was conducted for each and every code identified in the open coding phase.
Selective coding was then used to integrate the emergent themes from axial coding into one major theme (Strauss & Corbin, 1990) within each research question and across research questions. The integration process involved relating categories to each other on a broad and specific level, and to the core phenomenon of individual teaching practice change. For example, the major theme that emerged across research questions was “relationships”. Once it was established, it was tested for its plausibility. Transcripts that supported and evidenced the major theme were analyzed to validate the construction of “relationships”. Additionally, peer auditing was utilized to validate this encompassing theme. Hence, laying out a theme grounded in the context, interpretations, patterns, and integrated themes of the participant’s experiences.

Validating

Merely utilizing grounded theory is one source of validity because of its systematic and formal analytical methods (Gliner, 1994; Henwood & Pidgeon, 2003). Categories and themes were formally established through multiple coding methods. The themes were filtered and enhanced with each coding. The themes and categories were reviewed for connections to pre-established theory. These structured and unified procedures of grounded theory helped solidify the credibility of this study.

Interviewing techniques were also used in this research to help with validation (Glesne, 2006). During the interviews, the researcher asked individual participants for clarification and elaboration on their interview responses. For example, the interviewer would state, “This is what I heard you saying.... Is this an accurate depiction of what you said?” or “You just described the feelings you had as you were making this change. Adding to this description, could you label
what these exact feelings were.” These responses were provided by the participants during the interview and were coded with all of the other responses taken from the interviews.

Member checking (Eisner, 2003) is a third source of validity used in this research to determine credibility (Lincoln & Guba, 1985). Participants were asked to reference the accuracy of interpretations related to their responses and demographic information. The member checking process was completed after the data was coded and the researcher interpreted the emerging patterns. Each participant was contacted by email and was provided interpretations of data along with the central theme of relationships. Each participant was asked to confirm, deny or comment on the researcher’s interpretation of the data.

Peer review is a fourth foundation of validity in this study. This peer audit is the discussion of the researcher's interpretations and conclusions with other people. The possible codes and emergent themes were given to a doctoral candidate for review and discussion. The peer utilized in this research is an expert in the area of K-12 education and is a teaching assistant at the University of New Mexico in Educational Psychology. As a fellow researcher, she was able to provide insight on the coded data and as a peer not directly involved in this research, she was able to question interpretations and conclusions. This ensured the validity of theme derivation as a second expert opinion supporting the findings of the study.

Transferability (Lincoln & Guba, 1985) is another mode to determine validity in qualitative studies. Transferability is establishing that the research results can be generalized or transferred to other sensible contexts or settings. Transferability enhances this study with a rich and thick description (Glesne, 2006), and an understanding of the contexts and conditions in which this research study occurred.
Limitations of Methodology

A limitation of this study is my role as the researcher. Since I am the sole investigator to collect the data, natural biases can possibly affect the study. However, member-checking and peer reviewing were utilized to minimize bias in the interpretations and analysis.

Second, the sample of this research is based on criterion sampling. Therefore, the outcomes of this research cannot be generalized because the participant selection was not random. Rather the goal is transferability, establishing that the results can be generalized or transferred to other sensible contexts or settings (Lincoln & Guba, 1985).
Chapter 3

Results

This study investigates the triggers and process of individual faculty member’s teaching practice change at a research institution. Specifically, this study explores faculty members’ beliefs about change, teaching beliefs/philosophy, the motivational triggers that activate teaching transformation, the types of instructional changes that professors make, the factors that contribute to the change process, and the faculty member’s transformative experience.

Semi-structured interviews coupled with demographic and background information surveys were used to investigate the teaching change process of post-secondary teachers. Interview responses were coded in two central ways: 1) by research question and 2) by emergent themes across research questions. The sections that follow present the demographic and background information and the findings within and across the research questions.

Participant Demographics

During the study, 20 faculty members participated in one interview and completed a demographic and background information survey. Among the 20 respondents, 9 (45%) were male and 11 (55%) were female (Table 4.1). The distributions by ethnicity were: 17 (85%) White; 1 (5%) Native American or Alaskan Native; 1(5%) Native Hawaiian or Pacific Islander; and 1 (5%) preferred not to respond. As for their current academic rank, 12 (60%) were tenured and 8 (40%) were tenure track (Table 4.1). Participants were asked to report which academic program they currently teach in. For the protection of the participants’ identities, their names and specific academic programs will not be provided. However, a pseudonym, the college in which they teach, and years of teaching are presented (Table 4.1).
Table 4-1: Participant Demographic Information

<table>
<thead>
<tr>
<th>Respondent Pseudonym</th>
<th>Gender</th>
<th>College</th>
<th>Tenure Status</th>
<th>Years Teaching</th>
</tr>
</thead>
<tbody>
<tr>
<td>Neil</td>
<td>Male</td>
<td>School of Management</td>
<td>Tenured</td>
<td>16-20</td>
</tr>
<tr>
<td>Patricia</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Monica</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenure Track</td>
<td>4-6</td>
</tr>
<tr>
<td>Leah</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Lena</td>
<td>Female</td>
<td>School of Medicine</td>
<td>Tenured</td>
<td>16-20</td>
</tr>
<tr>
<td>George</td>
<td>Male</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Tanya</td>
<td>Female</td>
<td>College of Education</td>
<td>Tenure Track</td>
<td>4-6</td>
</tr>
<tr>
<td>Scott</td>
<td>Male</td>
<td>School of Management</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Alice</td>
<td>Female</td>
<td>College of Education</td>
<td>Tenure Track</td>
<td>20+</td>
</tr>
<tr>
<td>Melissa</td>
<td>Female</td>
<td>College of Education</td>
<td>Tenure Track</td>
<td>4-6</td>
</tr>
<tr>
<td>Gavin</td>
<td>Male</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>11-15</td>
</tr>
<tr>
<td>Tina</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenure Track</td>
<td>4-6</td>
</tr>
<tr>
<td>Christine</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>11-15</td>
</tr>
<tr>
<td>Mike</td>
<td>Male</td>
<td>School of Engineering</td>
<td>Tenure Track</td>
<td>1-3</td>
</tr>
<tr>
<td>Janice</td>
<td>Female</td>
<td>College of Education</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Steve</td>
<td>Male</td>
<td>School of Management</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Carl</td>
<td>Male</td>
<td>School of Engineering</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Bob</td>
<td>Male</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>20+</td>
</tr>
<tr>
<td>Carolyn</td>
<td>Female</td>
<td>Arts and Sciences</td>
<td>Tenure Track</td>
<td>4-6</td>
</tr>
<tr>
<td>Calvin</td>
<td>Male</td>
<td>Arts and Sciences</td>
<td>Tenured</td>
<td>16-20</td>
</tr>
</tbody>
</table>
Participant Background Information

In terms of teaching experience, 1 (5%) had three or fewer years of teaching experience, 5 (25%) had four to six years of teaching experience, 5 (25%) had eleven to twenty years of teaching experience, and 9 (45%) had taught more than 20 years at the time they participated in the interview. In addition, 15 (75%) faculty members were a teaching assistant in their graduate program and 5 (25%) were not. The definition of teaching assistant varied amongst the respondents due to differing institutional-specific definitions and role structure. Some faculty members were the instructor of record, some faculty members supervised student labs, some faculty members solely graded for a professor’s course section, and some faculty members monitored class group work in a professor’s course section while being a teaching assistant. Therefore, many of the respondents’ past teaching assistant experience did not necessarily equate to instructional experience directly in the classroom.

Each respondent was asked to state the percentage of time they currently spend working on 1) teaching, 2) research, and 3) service as a professor. There were sixteen different sets of percentages reported; illustrating a large range in the way a professor’s time is consumed by their three main responsibilities as a faculty member. Among the respondents, three specifically pointed out that their percentages of time vary depending on their semester research projects, teaching load, and service commitments. As for the percentages reported, 4 (20%) faculty members spent the majority of their time on research (40-50%), 7 (35%) faculty members spent the majority of their time on teaching (50-65%), and 4 (20%) faculty members spent the majority of their time on service (50-60%). In addition, four faculty members reported that they spend equal amounts of time within 2 different roles: 2 (10%) faculty members spend the majority of
their time on teaching and service (40% each) and 2 (10%) faculty members spend the majority of their time on teaching and research (40% each).

When asked about where the majority of their teaching practice knowledge comes from, the participants stated six main sources. Ranked from most frequent response to least frequent response, they were: 1) On the job experience (trial and error), 2) their own individual student experience observing professors, 3) prior experience as a K-12 teacher/substitute/coach, 4) teaching workshop/faculty professional development participation, 5) going to peers/colleagues to solicit ideas, and 6) participating in a new faculty member mentoring program. Thirteen (65%) professors commented that they had minimal, or no teaching training/education prior to becoming a university teacher. Learning by doing or observing was a common thread within the faculty member’s responses. Specifically, they articulated, “90% on the job experience”, “I emulate professors I thought taught well”, “I had zero instruction in how to teach”, “I learned to teach through trial by fire”, and “I teach as I was taught”.

Some shared that belonging to professional societies and attending professional conferences helps them keep up on new research and new knowledge in their content area. Others confirmed the importance of belonging to an organization in their discipline because it has helped them develop as a teacher.

Research Question Findings

Research Question 1

The first research question, “Why do individual faculty members change their teaching practices?” serves as an overarching inquiry in this study. Faculty members responded to queries about how they decided an area in their teaching needed changing and a possible defining
moment that triggered their decision to transform their teaching practices. Teachers are initially motivated by several different factors to implement teaching practice change. These motivators include a professor’s belief system, contextual factors, others influence, responses to adaptations, faculty member goals, faculty professional development experiences, personality, and consequences of change.

*Relationships*

The findings from this research question parallel with the findings of the emergent theme in this study that teachers are motivated to transform their teaching due to relationships with others. Faculty members deemed peers, students, faculty developers and personal relationships as the strongest connections that prompt change in their teaching.

Peer relationships were voiced in terms of colleagues that these faculty members directly work within their program or college, and/or colleagues throughout their discipline. Fifty percent of the participants stated that their colleagues have been a motivator for them to change their teaching. However, there was a difference between participants who had taught for 20 years or more and those who had taught less than that. Overall, 78% of professors who taught for a minimum of two decades were more likely to indicate their peers as a trigger to help them in their teaching practices. Just 27% of professors who worked less than two decades indicated colleagues as a factor in sparking teaching transformation. Seasoned faculty members may have a larger support network of peers and they possibly have established ways to utilize colleagues for enhancing their teaching. Participants agree that longevity creates larger peer networks. They think this is partly due to senior faculty being “more involved with peer evaluations and academic meetings” and partly due to being “leaders in curriculum development”. Some
participants view “peers as motivators because of their expertise in their field and not solely for their years of experience”. On the other hand, less experienced faculty members’ view several avenues of motivation (e.g., students, mentors and professional development) beyond peers. Those who do go to peers for help, do so for guidance and motivation.

Bob emphasized the support he receives by fellow faculty members as a significant trigger for adjustments in his practices (Figure 1). Leah focused on a peer who drove change throughout their program by adopting new technology into the classroom. Janice recalls a colleague’s advice that she implemented in her teaching, “I keep inventing other ways to get students involved. I have learned from other faculty. Like (Name), she actually made her students write reading summaries. She advised I try it out. I tried that and people hated it but it got them to do the thinking.” Lena’s colleagues in her discipline had a direct impact on her teaching,

“I learned from others in my field…through a professional organization…that you are never successful until you have looked at the outcomes. I now assess every class, every time I'm always a semester ahead. So here I am in the spring and I’m thinking about the summer.”

Mike’s participation in a professional conference influenced his teaching in his discipline. He goes to workshops where peers in his profession share what they are doing in the classroom and he takes examples from there to apply in his classroom.

Relationships with students were a highly represented trigger of change for the participants. In particular, professors expressed the importance of being in tune with students’ needs. As a direct result, professors would make changes in their instruction to fit their learners. Melissa expressed this dynamic,
“Who says that my way of doing it is the best way? There's one way, theirs (students) is another way, you know, if it's going to help them enter into whatever we're trying to learn with a more positive attitude, then change is the best thing, even if I really don't agree with that at the moment.”

Figure 1

| Bob’s responses throughout the interview encompassed collegial support. When asked specifically about a moment in time where he made a change in his teaching practices, where he thought the majority of his teaching practice knowledge comes from, and about triggers that initiated change in his teaching, Bob shared recollections of relationships with his departmental, discipline-based and university peers. One colleague suggested an informal, anonymous survey for his students, which he administered and deemed successful to assist in making changes in his class. Bob has also sought out faculty on campus in other departments to aid as a resource for their extensive experience using media in their classroom. He utilized their expertise to transform his current semester project.

Bob also recalled “serendipitous” moments with peers in his discipline. These were situations where Bob did not actively seek out advisement from others. For example, he had been striving towards more critical thinking and writing with his students but was not getting the product that he wanted. An instructor walked in the door who possessed a very specific skill in film making in the exact same domain as Bob. They collaborated and re-designed Bob’s course that current semester to promote critical thinking and writing but using a media format. Additionally, Bob shared a time when he went to a conference where he met someone in his field that triggered him to make some changes in his teaching practices. Consequently, he began to go to his peers more when he needed help in his teaching.

Bob and Steve base their changes on student feelings, emphasizing that drama and frustration on their student’s part cause them to modify their teaching. Steve is prompted to transform his teaching when he perceives his students are not learning. Mike’s source of teaching practice change is his student expectations. George defines student entertainment as a central reason for changing his approaches to teaching. Christine elaborates on this notion of entertainment,
“I think most of what I teach this stuff that a lot of the students hate and very difficult, I tend to feel many people don't want to be taking this class, they're taking it because it's required. Everybody has to take it, and it is stuff I absolutely love, and it is very hard sometimes to think about, how can I make this appealing, but it's in an area that most of the graduates are not at all interested in. I have some suspicions about what they don't like because it's a class with all lots of information, there's a lot of memorization, and that is not a route to popularity. And I accept that, I'd try to give them lots of different activities, and different ways of learning this stuff, and try to really vary my classes so they do different things.”

Faculty developers also contribute to pedagogical changes in university teachers. More than half of the participants attended a workshop or full day seminar of faculty professional development that motivated them to transform one or more aspects of their teaching. Monica firmly states that formal teaching education on the subject of employing writing in the post-secondary classroom has been an effective change agent for her teaching. Carolyn attributes these types of workshops to the changes she has made in designing her courses, the way she involves her students in the learning process, and with adopting innovative pedagogy into her classroom (e.g., clickers and calibrated peer review).

Perceptions of oneself, reflective practices, and individual’s developmental processes are defining personal triggers of change. Additionally, connections and experiences with family are reported as catalysts to teaching transformation. Relationships specifically with children, parents, spouses, and pets have elicited change in university teachers’ instruction. It is important to mention that there was a difference between genders regarding personal relationships. Out of the 25% of participants who conveyed family as a trigger in their teaching transformation, 80% were
women and 20% were men. It appears that female faculty members associate their family beyond the home and into their work life whereas male faculty members separate family and professional roles. More than a handful of female respondents indicated their role as a mother and/or their relationship with their parents as a relevant factor in their teaching career. Specifically, these female participants noted their family member’s importance when they chose to become an academic and/or motivating them to become a better professor. In addition, all of the women professors who referred to family members, mentioned specific people in their life. However, the few male respondents who described family members, noted pets in addition to people as having an impact in their teaching.

**Context**

Contextual factors also activate teaching practice change. The contextual factors include the setting and the dynamics of the setting of the specific institution these participants serve. A myriad of contextual factors were reported amongst the participants as having small or large impacts on their teaching. Male professors noted context as a factor that motivated them to change their teaching practices more than females. In fact, 89% of males identified context while only 26% of females did. Perhaps, genders value or perceive their context differently in terms of their teaching.

The institution in its entirety was identified as a cause for change in individual teaching. The fact that these professors work at a research intensive institution, sparked change in faculty member’s teaching. Bob thinks, “Teaching is research”. George commented, “You teach through research.” Neil says that his teaching today is grounded more in research because of working at a
research institution. Carl believes, “Production of scholarly work is actually a teaching function as well.”

Overall, these participants believe that research and teaching are cyclical, meaning that there is a continuum of teaching informing research and research informing teaching. Conclusively, faculty members experience regular teaching changes at a university that expects research productivity.

Budgetary pressures were another common reason for modification. Professors had to adapt to larger class sizes and move to an online class format rather than face-to-face. Steve confirmed this experience with the increase of online teaching.

“As with most changes in a big, bureaucratic organization, politics drives a lot of it. There's tons of budgetary pressure, so everybody's looking around for things to cut. So there sits our undergraduate program with some of the lowest concentrations and enrollment at the school, and six full-time faculty. At the same time, the few classes that were online, they are full. Add to that, the university seems to think for some reason that online saves money. Now I have transitioned to teaching online courses.”

Other contexts factoring into teaching practice change were academic programs and individual courses. At the programmatic level, changes were made to preserve, sustain, and fill gaps in a program. If a college wanted some sort of enhancement or alteration, teachers felt obligated to make teaching practice changes. Carl described how his department implemented a new change,

“They required that we develop a system of continuous improvement based outcomes of assessment. And so the outcomes of the assessment program are pretty much in every class. We
used to look at ‘What did you teach?’ and now we look at ‘What did students learn?’ We have to sit down and analyze, here are the goals of the class, we have to develop a way of measuring it and if they didn't get it, then we have to do something about it. Now you have program outcomes okay, which the department as a whole deals with but sometimes, though, program outcomes are parsed in little bits and a bit will just be in my class and so I actually have to be able to provide that analysis and provide that to the department as a whole. And so if I'm not getting that done, I sure as heck better figure out how to make it get done.”

Melissa addressed how an individual course can be changed due to a larger entity, “We had talked about it, but the college wanted more classes online and we just said this is one (course) we can easily do online.” Also, specific class formats make some courses more susceptible to change than others. Faculty members note the teaching of a small class versus a large lecture configuration as one example. They provide the difference between teaching a subject for an undergraduate and a graduate level course as a second example.

In addition to class formats, the scheduling of classes was a frequent response among faculty members who were questioned about changes in their teaching as an effect of context. Christine provides an example shared by many,

“When you teach the same thing over and over, you start noticing there are certain things that you get a lot of questions about…. It's in a way, very, very helpful to teach the same thing relatively frequently, because then you've learned, you experiment, and you can learn what works and what doesn't work. But I feel that I've always spent way more time on my teaching relative to my research, and it's partly because I have this relatively large set of classes that I cover at relatively infrequent intervals. Every preparation is a new preparation.”
The university student population has been a trigger of post-secondary teaching practice change as well. Christine, Bob and Scott agreed that students individually change, students evolve into graduate students, and student populations shift. When this occurs, faculty members adapt their teaching to align with their learners. Further, when curriculum changes, needs in a discipline are newly defined and pedagogical research progresses, adaptation occurs. A number of university teachers are motivated by the opportunity to modify their curriculum and pedagogy to keep up with modern day education.

However, Bob distinctly thinks cultural shifts attribute to his teaching transformation, “I felt as though I was having trouble motivating my students to be scholarly, that is to use a literature as a source, to embrace writing as a way of thinking and developing their professional writing skills, that was a struggle for me, and it's gotten worse in the last eight years or so because of cultural shifts towards media; everyone is just using video and whatever. ...so we shifted to that. I had to develop the whole process in the class for getting these projects done, and my class did its job, and did the research, then we went on the film shoots, we got all of that stuff.”

The majority of participants noted one or two triggers that have been pivotal in their individual teaching practice change. They conveyed these triggers as separate, not in combination with one another. On the other hand, Alice voiced a multiplicity of factors blending together, “I think it's kind of a community thing. At first, the institution has course outlines, and they give you course outlines, and I think you have to look at those course outlines carefully, and also figure out what is the expectation. I think you need to make that expectation, and I think you
need to make the expectation that the public would have when they hire people, or the future employers will have, and what the textbooks seem to be pushing in a certain area. I think all of that enters in, but that does not stop you, certainly, from having people ask questions, and then answering them from the standpoint of what they are most interested in, and making an effort, I think, to tie their interests to the materials that you've decided should be part of the course.”

**Outcomes**

Post-secondary teachers weigh outcomes before making a change, and by doing so, these consequences become motivators for teaching practice transformation. They identify many personal and professional benefits from changing. Such benefits include upward momentum in their job, witnessing student improvement, achieving their professional goals, and developing as a person/professor.

At least half of the professors spoke about the importance of feeling satisfied in their job. Every professor who expressed this notion took personal responsibility for making changes to achieve higher satisfaction when they determined change was needed. To the contrary, every professor credited one or more aspects of their teaching as grounds for being dissatisfied. Many of them referred to moments of dissatisfaction, which ignited transformation to take place. Carolyn recalls, “

“And there seems to be a pattern, right? I get into a funk and I do get really pissy about it and then I don't want to be pissy because I'm an optimistic person (laughing). I think it's when I'm tired. I'm tired of listening to myself. I'm tired of having to hear those thoughts in my head and I think, okay, fine. You either have to shut up about this or you have to do something about it. I'm tired of me being unhappy about this. We're at high risk for burn out with teaching here
(at this institution) unless we take some active steps to change those things because it can be very
discouraging.”

Janice and Monica’s boredom in their instructional approaches initiated a force of energy
to make enhancements in the classroom. Monica specifically gauged her boredom through a
combination of her own feelings and a lack of student engagement (Figure 2).

**Figure 2**

| Monica felt like her classes were “miserably” boring. Her students did not seem engaged and she had not been really happy with assignments that she had been giving her classes. They were not creative or challenging in her eyes. Monica described that her boredom is what motivated her to do something different in her teaching. For her it was a specific negative emotion that made her decide to go to a faculty professional development workshop on campus. She sought out a resource that was “cognitively convincing” and had new and intelligent ideas. She was not resorting back to her prior teaching strategies since she and her students were “not fine”. Finding something that led to both her and her learners becoming excited about the content and assignments was an epiphany for Monica. Her future teaching decisions are made around the notion of what she and her students consider boring. |

Scott discusses his discontent in terms of passion, “I want to create some new innovation every semester in several of the class sessions because you can't, if you go in and do the same thing every semester, pretty soon, you sound like the same thing and you get monotone, you're not passionate about it.” Bob says that when he is not feeling the right momentum with his projects or his students, he looks at other avenues or to other colleagues to help him navigate change.

Numerous faculty members took action to maximize their happiness by taking personal responsibility when something went wrong in their teaching. Gavin and Tina made references to looking at themselves if their students were not learning. They evaluated their role in the teaching and learning process and then made changes to their instruction. Steve concurred, “I truly do believe in the largest sense of the phrase, when students don't learn, it's my fault. Now is
that always true? No…” Steve reflected on his teaching in the same way that Gavin and Tina did but he also addressed his students when he found that their actions were a contributor to unsuccessful learning. Teachers found personal satisfaction with evidence of student achievement.

Also, personal fulfillment is defined by success. University teachers simply want to be effective. They are motivated to change their teaching practices when they think it is supporting their development as a professor. Janice illustrates this concept, “I want people to think and they don't want to think, they want to memorize but I've been using that for a few years now.” She was driven to work with her students’ learning process and modified her teaching to reach this goal.

_Beliefs_

Belief systems activate transformation in professors’ teaching practices. Specifically, professors’ thinking about change, and values about teaching are a source of motivation. Approximately 50% of the respondents stated that their beliefs trigger changes in their teaching practices.

Beliefs about teaching practice change tended to be more of an influence for these faculty members than separate viewpoints of change beliefs or teaching beliefs. When asked to describe the main components of one’s teaching beliefs/philosophy, faculty members included ideas about change within their instructional approaches and strategies. For example, Gavin regards change as “essential” for teaching and Scott quantifies his beliefs claiming that he creates one or more new “innovations” each semester. Tanya believes in meeting her “community needs and scholarship responsibilities” as a university teacher, which in turn sparks change in her practices.
For Melissa, change in her teaching is a continuum with a strongly held value that she “owes” it to her students to better her teaching. Scott’s believes in taking a practical approach to teaching. He says he has honed his improvisational skills because he thinks that teachers have to realistically walk in the classroom expecting problems. In his eyes, education is “not a one size fits all”. He expects the unexpected to happen and wants to be able to handle changes in a calm manner without “freaking out”.

Research Question 2

The second research question, “What do faculty members consider change to be?” functioned as an inquiry to define change based on individual faculty member’s understanding and experience of it. Respondents described characteristics about the concept of change by (1) identifying a change(s) they have made in their teaching, (2) pinpointing factors that play a role in their change process, and (3) delineating emotions, thoughts, and behaviors they experience with change. By and large, professors define change as a developmental process and they classify change as cognitive and/or emotional, rather than behavioral.

Description of Change

University teachers use descriptors such as “gradual” and “incremental” when depicting teacher practice change. They also referred to their direct role of post-secondary teaching as “evolving” and “maturing”. Furthermore, professors provided examples of change in a positive regard, conveying that the change they engaged in was necessary, beneficial, strategic, motivating or grounded in their beliefs.

Although the transformative experience was generally reflected on as encouraging and constructive, participants’ pessimistic feelings were definitive elements of the change process.
Unhappiness, pressure, urgency, frustration, and boredom were common emotions experienced with individual professor change. In every response where negative affect was stated, it was also deemed a trigger of change.

Faculty members characterized transformation as an “emotional” and/or “cognitive” decision. The majority of participants referring to change as an emotional process centered their feelings around relationships, particularly with their students. George sums up his change process as “humanistic” since he genuinely cares about his work and his learners. Melissa and Patricia also say that change is emotional for them. Since they are emotionally invested in their students, feeling connected or disconnected impacts what and how they change (Figure 3).

Figure 3

Melissa strives to build an excellent rapport with her students. She believes in displaying compassion and care for each and every one of them because the teacher/student relationship helps everyone reach their goals. Melissa values this rapport because it is a reflection of her beliefs and her persona.

For Melissa, changes are made when things do not “feel” okay. She states, “If everything feels okay then I wouldn't change it.” Transforming her teaching has a distinct emotional aspect. Melissa thinks that some instructional changes are more emotional than others. For example, a change in the middle of a semester is more emotional for her. According to Melissa, this specific time in the semester means that she is making teaching changes due to a direct reaction to students' responses of her. In her experience, pedagogical changes stem from student frustration. Melissa’s goal is to lessen that frustration so that her students can come back to class with more positive attitude and ownership.

Melissa wants her students to have a positive learning experience. By responding to her student needs, she believes she is modeling flexibility that promotes optimism in the course and a positive rapport between her and her learners. Melissa approaches her teaching and students with a high emotional investment, which makes her teaching process (including change) effective for her.

The cognitive change experience was thought to be a “mental awareness” by respondents.

Through observations, preparation, analyzing consequences, measuring success and reflecting on
goals, some professors categorized their change process as introspective rather than affective. Lena explains, “I identify who is succeeding, who is not and why they are not. Then I make changes accordingly.”

A handful of faculty members stated that their transformative experiences are both cognitive and emotional. Most of them discussed these attributes as two separate components of the change process, focusing on emotion with one part and cognition with another. For instance, Melissa says her feelings play a central role when making changes that impact people and her reflective processes are directed by her thoughts especially when asking “why is this important to change?” However, Tina describes emotion and cognition as co-existent, “One doesn’t cause the other. Emotion and cognition go together.”

Research Question 3

The third research question asked, “What beliefs do faculty members hold about teaching practice change?” Participants responded to questions about their major teaching beliefs/philosophy and about their beliefs on the subject of change. Professors hold a strong belief to center their teaching on their audience and to be open to change. These professors maintain that their beliefs change their teaching practices or that they change each other. However, none of the professors believed that their practices change their beliefs.

Teaching Beliefs

Faculty members shared many different beliefs about their teaching. Ranging from content delivery and student preparation to classroom assessment and student success, an obvious theme amongst these convictions was a philosophy designed around students. Additionally, almost all of the teaching practice changes reported in this study were made to
improve student success and ultimately create a learning environment that aligned more with a student-centered teaching approach.

Most belief systems of the participants reflected pedagogical knowledge. The professors placed a very strong emphasis on active learning in the classroom. Janice strategically plans “learning experiences” for her learners, providing hands-on projects for her students to engage in. Christine puts a high priority on livening up her classes, balancing “activity sections” with her lecture. Carolyn plans her courses with active learning as a framework to deliver her content. She believes her students should be “engaged, and not passive” in their learning. Tina believes in student-centered learning, where students apply the principles they learn about in her classroom. Both Bob and Steve “reinforce theory with practical things”. They believe students need to understand the pragmatics first in order to maintain learner interest. Monica illustrates how she connects her students learning with her teaching,

“I would say the number one thing is the belief the students have to construct knowledge for themselves in order for any knowledge gain to happen. So things that have to happen is opportunities for students to engage with the material on their own terms in their own way. They have to have a variety of opportunities that I have to give them a variety of ways to do that and that there has to be some stuff in the classroom and there has to be some reflective stuff outside of the classroom.”

The second most common belief amongst the respondents was based on the idea of student success. Although they believed in the notion of achievement, they stated it in very different ways. Alice says, “I will do everything within my power to try to advance the talented. To me this is really important, and that’s probably why I like to work with the doctoral students,
because all of a sudden I have the talented.” Calvin provides successful student strategies for his courses, “I realized that students really do want the tips and tricks they really can grab onto.” Tanya shares a specific student accomplishment she strives for,

“So it's important that they become critical thinkers. That's another element of my teaching philosophy… Critical thinking is opening your mind to other perspectives even if you don't agree with it, but also being able to articulate your own positions. And you know what I find a lot is the concepts are very new to them and they really develop a critical consciousness.”

A few faculty members concentrated on course design when describing their teaching philosophy. They specifically discussed their beliefs on class objectives, syllabi, overall preparation, and course transformation. Melissa stresses the importance of her syllabi,

“I'm flexible but I'm very organized with my syllabus. My syllabi are about 14-15 pages long because I really try to put everything in there because that means I can answer their questions. It means they can have faith that I know what I'm doing, I know the plan and that helps me too. Because I think through it all in advance and try to anticipate as much as I can and at the end I always say, this syllabus is subject to change. It gives me an out for we're not going to do that paper, we're going to do an extra paper, an extra shadowing assignment or whatever.”

George uses his objectives as a starting point for class preparation, “When I'm thinking about designing a class, what are the objectives, what do I want the students to learn and everything is geared toward those objectives. You start with that and then anytime you design a class around them, it's always going to come back to those objectives.” Monica also puts an emphasis on course outcomes, “I have to have really clear objectives with the outcomes of what I’m trying to get them to achieve and then I have to give them for every topic for every concept some way of producing it.”

51
A few other faculty members accentuated student preparation as a part of their student-centered philosophy. Carl believes that students have to be prepared for the next course and the workforce, and designs his class accordingly. Mike also values the skills and knowledge his students take with them from his course (Figure 3).

**Figure 3**

Mike highly emphasizes “experiential learning” in his teaching philosophy. He focuses on what his students will be able to “do” when they leave his classroom door at the end of the semester. Part of this belief stems from utilizing Blooms Taxonomy and ensuring that his students achieve the highest level possible. The other part has to do with his discipline. He believes it is necessary to focus his teaching on student development and modern day skills for professional preparation in his field of hard science.

A few faculty members focused on their distinct role as a teacher in their teaching beliefs. George depicts his role as, “The person lecturing is the person learning.” Bob’s ideals include, “…renovating 20% of his teaching a year”. Tina says that “personal reflection” is a way of life, and this carries over into her instructional practices.

*Change Beliefs*

Beliefs about change surfaced in different ways. University teachers were either optimistic or less than optimistic about change, and/or used analogies to represent their convictions about change. A majority of teachers spoke about transforming in positive terms. They have a desire to change and believe that taking risks leads to effectiveness and opportunity. Some even said that change is “essential”. Others classified change as a motivator that drives them in their life.

Very few post-secondary teachers were less than optimistic. However, they said that change in and of itself “presents obstacles and setbacks”. They also noted that they have negative
emotions that are attached to changing and/or are a result of change. Impatience was the main feeling depicted in this context.

Finally, participants represented change beliefs through analogous experiences. Recounting personal relationships from the main emerging theme in this study, animals were an example of a connection that professors described as motivating or helping them with their teaching. For these professors who discussed their pet relationships, the act and process of change was a resemblance for them. Their relationships with their pets embodied a give and take relationship. Training an animal by nurturing and rewarding them, and responding to their needs were all examples of analogies.

**Research Question 4**

The fourth research question, “What is the process of teaching practice change that individual faculty member’s experience?” was asked to obtain a holistic understanding of teaching practice transformation. Factors of change and decisions made by individual professors throughout their change experience were inquired about. Professors reported a myriad of factors from the perspective of both hindering and helping the process of change. They also discussed how they decided to make any changes and what they would do when they perceived a change as unsuccessful.

**Time**

On the whole, participants’ communicated that time was a factor in changing their practices. The notion of time took several different directions with the participants’ responses. First, there was a general message conveyed that professors do not have enough time to improve everything they may want to in their teaching. Carolyn represented the majority of participants
when she said that she has learned to “pace herself” with modifications since she cannot revamp an entire course with the time constraints she has. Gavin touched on time in a similar fashion, stating that time is not always on his side, especially since he has experienced “an increase of responsibilities to service since he became an associate professor”.

Second, change was viewed by several professors as “adjustments over time” where a time limit cannot be placed on growth and maturity in teaching. Melissa, Patricia, Steve, and Bob agree that change accumulates with more teaching experience. Yet, Gavin characterized the first six years of his academic career as the “developmental years” where he felt like he was an expert in his teaching practices once he accomplished tenure.

Third, the timing of change played a huge role with university teachers. Numerous participants declared specific occasions where they had to immediately respond to classroom dynamics that could not wait. “Adapting to the moment”, “improvisation”, “thinking on my feet”, “immediate change” and “quick-witted” were all descriptors of timing by post-secondary teachers. Another example of timing that emerged from the professors was regarding when in the semester potential changes arose and whether changes would be feasible or not during that period of time. Melissa expanded on this idea,

“I would say a change in the middle of a semester, it's more emotional. It's a direct reaction to students' responses to me. If I change something drastically in the syllabus it's usually at the end of the semester looking at revamping for the next semester, analytically looking back, did I meet the students' needs with these topics, assignments, whatever?”
All of the participants who agreed with Melissa directly stated that they typically do not make large changes to a course until the following semester. They transform a course when they are planning at the beginning of a semester.

Last, a few faculty members said that the frequency of a course was a factor in their change process. The more often they have taught a class, the less time they need to spend transforming it in the future. Leah believes if she teaches a course a minimum of once a year that she has a “basic platform”. Conversely, the less often they have taught a class, the more time they spend on teaching changes.

**Context**

Contextual factors are another major dynamic of the teaching change process for faculty members. The participants depicted context as beneficial, unfavorable, and/or indifferent to their teaching practices. The contextual examples provided by faculty members included working at a research institution and the specific culture in which they are situated at the university. There was no leading perception by professors whether the research dynamic helped or hindered their approaches to and/or changes in their individual teaching. They were also split on whether they think their university is supportive or unsupportive solely in regards to teaching.

The research component of professors’ responsibilities is prominent when working at a research intensive institution. More than half of the post-secondary teachers in this study acknowledged their institution’s research status as a factor in their teaching. Mike calls his research and teaching a balancing act. He feels like he has constraints on both but has the freedom to decide how to prioritize them. Steve “doesn’t even feel much of R1 responsibility or benefits”. On the contrary, Carl, Bob, Tina and George feel the effects of being at a research
university. They are linked to the specific context of their work, “research is a strong component of tenure” and “I’m not a good teacher unless I am doing research”.

How does this factor into the teaching practice change experience? Gavin says he feels “guilty” about working on his teaching, but believes he is not a good teacher unless he is doing research. Neil makes more of a “commitment to certain classes because of research”. Janice says her teaching is labor intensive even though she believes, “they don’t want you to work on your teaching here.” Largely, faculty members recognize the research component of their jobs and recognize there is an impact of this contextual factor on their teaching practices.

Several professors spoke of their institution as being a supportive or unsupportive teaching culture. A few faculty members were encouraged by administration to attend faculty professional development workshops on campus when they were looking for resources and strategies. Also, technology support for instructional strategies is provided for another faculty member when she requests it. On the other hand, some professors stated that there is a lack of leadership for improving teaching at their institution. They voiced that they do not know where to go to get help as a faculty member.

Energy

Energy levels were a smaller but notable factor in the teaching practice change process. Tina refers to teaching as “so much input with less in return”. Calvin states that he “runs out of steam”, which directly affects his efforts in creating teaching innovations and changing strategies. Other participants conveyed “inspiration as an energizer” for change. Leah explains how her energy plays a role,
“Well the time that's goes by between when you implement something and when you have the chance to modify it… I think that when you really look at it there's kind of efficiency of your prep. If you walk in and do it in one course and then you do it again, then maybe you would have that kind of benefit. Maybe for me and maybe for the students, as long as you have enough juice to spread over the semester.”

A small number of professors expressed energy as an influence in their teaching change process. Although it was acknowledged as a factor, professors were vague about how energy factored into their change efforts. Most faculty members simply stated that it is something they consider when implementing a change.

**Change Decisions**

University teachers consider an array of decisions during change. For example, how did a professor decide that a certain area in their teaching needed to be changed? Was that change made for one course or more than one course? How did they know how to make the change they were working on? What do professors do when teaching practice changes do not work? These decisions constituted taking on a new approach or resorting to a teaching strategy they already knew. Participants were split down the middle, with some opposed to trying something new and some in favor of an innovative change (Figure 5). In addition, professors relied on their students, their own expertise, and their support systems to figure out the particular change they were going to make.

**Figure 5**

When asked about what she does as a result of a teaching strategy not working, Tanya replied that it depends on the moment. She adapts to what is needed and does not impose her values on her students just because she is the professor. She says that many faculty members think they are “infallible” and this shows in their personality inside and outside of work. In her eyes, teaching is a delicate balance and when something “flops”, she has to figure it out for herself and her audience. She analyzes it and tries something new. However, if she fails a second time in the same area of teaching, she does become frustrated and may just abandon it until she has more time and energy to come back to this area. Tanya represents both sides of the spectrum since she is open to trying something new, but may also oppose new attempts at re-vamping her teaching after several tries.
When changes in teaching strategies do not work, some faculty members wait to see what the situation calls for. In doing so, they “analyze the origins of failure” or “adapt to the moment and not just impose ideas”. They make efforts as “practical as possible”. For those professors who prefer a new innovation, they “try something different” and focus on how to conduct the teaching strategy better. Professors who abandon new efforts list time constraints, laziness and giving up as the top reasons for reverting back to teaching strategies they know best.

How do faculty members know how to make a change when they deem one is appropriate? For the most part, faculty members take student performance and student needs into consideration. Melissa checks in with her students and collaborates with them regarding course changes. Alice surveys her students informally by soliciting anonymous feedback notes to see if their needs are being met. Nick makes changes once he gets to know his student population. Ultimately, Lena reflects on student success to determine the next step in her teaching transformation.

Teaching expertise is an additional factor in navigating the change process. Christine thinks that after teaching the same class for a period of time, you just know how to change. Tina says her long experience in the classroom helps her. Carl calls it an “educated guess” on his part and Bob looks at concepts of sustainability when making changes in his teaching.

Support systems are the third factor when deciding the way a change should be made. Professors note “learning from others” and specifically talking to other “colleagues” during this transformative process. Leah details,

“The tools that are out there now, of course, with the internet and the web, best practices, within my discipline for example, there are people that are putting their successful things out
there, so I don't just have my own colleagues here but I have my community. The professional society I belong to is putting more emphasis… you can go to sessions that talk about teaching.”

Melissa describes her experience as a combination of peer and student feedback,

“I talk to my colleagues and get their advice. You know, I pilot things, like trying something with one group and see if they'll expand to other groups. I would say when I make changes I talk to people about what I'm thinking about, then I check in with my students, and by semester end, I know if it feels right.”

**Summary of Research Questions**

A faculty member’s teaching change process is described by faculty members in terms of one’s beliefs, motivation, context, relationships, and individuality. Professors believe that these factors not only play a role throughout the change experience, but also activate teaching transformation. It is important to note that none of these factors exist alone. A faculty member’s individuality and contexts influence beliefs and relationships. Beliefs and relationships influence motivation. Motivation then triggers the transformative process of teaching.

**The Main Theme: Relationships**

One major theme surrounding the experience of implementing teaching practice change from an individual faculty member’s perspective emerged in this study: relationships. The theme of relationships explains the extreme importance of creating, maintaining, extending, and nurturing relationships between a faculty member and their students, a faculty member and their colleagues, a faculty member and their mentors/role models, a faculty member and their institution, and between a faculty member and people outside of the university. Every professor interviewed expressed the importance of various relationships as primary motivation for
implementing changes in their teaching practices. It was evident through the interviews that collaboration existed throughout the teaching practice change process. The participants shared that through common work inside and outside the institution, with peers and with students that these relationships mattered. These various relationships were not only triggers, but also served to sustain continual teaching change efforts.

Many professors also discussed the lack of supportive relationships they have experienced as a faculty member. They concurred that post-secondary teaching takes place in isolation and teaching practice change efforts are autonomous. However, these faculty members shared their desire to have collaborative and supportive collegial relationships. Despite the lack of relationships, the faculty members in this study transformed their teaching practices.

*The Student Relationship*

Teachers shared a universal philosophical commitment to connect to their students. When asked about their current teaching philosophy and/or major beliefs regarding their teaching practices, 95% of the participants discussed their learners when talking about their core beliefs in teaching.

Some of the faculty members spoke generally about the importance of student-professor interactions. Bob conveyed the high value he puts on his relationships in the classroom,

“Well, you can't force people to do it your way, that's ridiculous, but if I know what I want to do, and they are not ready to do that, I have to go back and get on their wavelength and nurture them, so that they are ready. There's a level of trust that has to be there, and I'm constantly tuning into that.”
Melissa concurred with this notion, “I value relationships with students. I have to know where my students are in terms of what we're learning… and I have to know what they know before I can really start teaching it.” George simply thinks that if he cares about his students, then they will care about learning in his course.

Other faculty members reported on very specific dynamics of the student relationship. Tanya focuses on the design of her courses and how her students set the tone for her. She believes her syllabus and daily teaching has to be planned around her students. Alice provides references for her class so they know where she is coming from in her teaching. George thinks that accessibility for his learners is also a key component to teaching, “The other part of my teaching philosophy is accessibility. I believe the difference between doing the online class and taking a class where you're sitting face to face, the way I'm designing it is that I want my students to know I'm there and try and get them to be able to come into the office.”

The majority of the respondents stated that their students’ learning styles inform them of how they transmit knowledge in the classroom. Monica sees herself as a catalyst for individual learning,

“…students have to construct knowledge for themselves in order for any knowledge gain to happen. So things that have to happen is opportunities for students to engage with the material on their own terms in their own way. You know, they have to have a variety of opportunities that I have to give them a variety of ways to do that and that there has to be some stuff in the classroom and there has to be some reflective stuff outside of the classroom.”

Tina agrees that she has a responsibility to keep her students engaged,
“And students love, that's the other thing, American students love animated teachers. I guess because also I am a faculty now, I feel a lot more responsible for engaging them. I started watching them really closely and when I see them losing focus, like shifting towards other things and it's very easy to get, even in a large classroom you'd be amazed. So I try to shift gears when I see that a percentage of the students are getting bored or are getting distracted or, I don't know, I shift gears. I do something unusual. I stop lecturing and I ask a question. Or I have them to do something.”

Lena works at making the content appealing to her students because, “I think that a lot of times the students come in and then it's like deer in the headlights. (Laughing) And they're going, oh my God, what is she talking about?”, while Carolyn refers to active learning when discussing her students learning style, “Breaking the class up into smaller chunks, making sure that your students have an active role in every single class, um, I think that's really important.” Finally, Tanya says that she has to relate the content to her students and make it relevant,

“It's so important for me to try to get them to relate their learning to their own lives so they can feel a connection. And learning about important concepts and issues and events, maybe, in their own communities or other communities that they're also tying it back to how it relates to them. Then they're more engaged, it's more meaningful for them.”

These post-secondary teachers believe in facilitating learning and providing hands on, authentic learning opportunities for their students.

A number of participants talked about changing their teaching practices because of the changing student body they serve. Monica also discusses the process she goes through to revise her teaching,
“I almost feel that you have to go through that first year of lecturing and trying to cover everything because you have to learn the content yourself. You have to master it yourself, you have to master it and that’s the way you do it, but then you realize that, wow, there’s like a thousand better ways for my students to get this than lecturing. And I think you have to do that first before you can really set up what are the key concepts and how am I going to use this to teach.”

Lena notes, “We're in a transition period with students and the students today are much more visual learners, they like to participate, they don't like to sit. I'm trying to bring a little pizzazz (laughing).” Carolyn says,

“'I've been learning more since I've been here about making sure, uh, I'm doing the best I can to get to students that are from multicultural backgrounds, too. And allowing them the opportunity to, um, they may be uncomfortable. Certain students from certain, from some different cultural backgrounds may not be students who are raising their hands and talking in a large group class or even in a small group class. So how do you engage them? And doing things like Calibrated Peer Review is a great way to do that. And it allows them a way to participate, still be active, still be actively thinking and, um, not having to be someone they're not by talking in a large group classroom.”

Teaching a different population before coming to teach at his current institution, Gavin explains,

“'The learning curve in the first three years was really steep. I was privileged. I wasn't teaching more than one class a semester, I was teaching small classes at a prestigious university, so it was quite a different educational culture when I came here. I had to adapt a lot of
assumptions and expectations that I had working with students at other institutions where I started my graduate teaching.”

Tanya and Mike mutually emphasize how unprepared they feel students are and as a result, make changes to adapt to them. Janice talked about the adaptations she has made in her teaching practices since she perceives that the current student population learns through technology.

A handful of faculty members conveyed the worth of knowing their students. Neil described the personal connection he began to make with his learners,

“I did something where I started learning student's names and I'd call on them because they would never respond (laughing). I started connecting more… noticing that instead of just talking… if I stopped and got students' opinion on the topic or somehow engaged them. I forgot what it was, what I would say, but it was something like what do you think, can you give me an example of everyday life that is like this?”

Mike specifically referred to knowing his students by learning how to motivate them to participate, learn and extend themselves. Melissa says that getting feedback from her students is imperative because it gives her a sense of who they are, “I do exit slips at the end of each class. That allows every student to feel like they can communicate immediately; how it's going, what questions they still have. …if I really am going to be true to my students, I have to do what they need not what I need. It's not about me.”

Assessment of students was yet another aspect of teaching that faculty members reported on when sharing their teaching philosophy. Some focused on the quality in which they assess
their learners and other faculty members focused on the frequency of assessing. Calvin articulated,

“I'm trying to get people (other faculty) to do assessments, and it's something that I really believe in… assessments of learning. I now have my students looking at the outcomes and they are talking about them, and they are doing assessments. They write and they address an outcome, and they talk about what the outcome is, and they point you to a specific place in their portfolio where you see evidence of them attaining the outcome. It really does lead to better reflections.”

Alice explained,

“I wanted to be a really good lecturer. A lecture where the audience stays with you, you have 1000 people where nobody leaves the room, and you can see that the people are nodding with their heads. It's almost like the theater… and then you work on trying to find out what people know and have gotten from the dynamic lecture. The student tests have a real impact on me, and I'm very alarmed if they don't know the content. When students come in, I'll do everything in my power to be sure that they learn.”

Relationships with students have provided opportunities for these university teachers to make changes in their teaching practices. Many participants acknowledge their active role in student achievement and student success, along with the understanding that they may have to transform their teaching practices to aid in improved student outcomes. Bob believes that his students need to build their “scientific voice” to develop themselves as higher functioning students. He purposefully teaches them writing skills for research papers to ensure he is aiding them in this process. Charles uses worked examples for his students so that they understand current workforce problems and are better prepared for the professional world. Alice shared her
belief that she should be helping each student reach their potential, “…by listening and paying attention to her pupils.”

Student difficulties also presented occasions for teachers to analyze their teaching practices, and some of this analysis resulted in concrete teaching changes. Nick recollects,

“I have to make everything hands-on (laughing)…I was reading all the student reviews…this guy just reads his slides, I'm not paying all this money to have a professor just read his slides, and after that, I stuck with that hands-on approach.”

Tina had students dropping her class and she decided to explore the origins of this behavior, while low performers in Calvin’s class prompted changes in the way he plans his teaching.

As a response to informal and formal teaching evaluations from students, along with class meetings and casual discussion with students, participants communicated the value of student feedback, student voice, and student participation in the learning/teaching process. Melissa expressed, “I typically know what I want to do in my head and then I kind of get their (student) feedback. Just because I think fairness is really important and student voice is important.”

Janice shares similar thoughts that the student learning experience means student involvement, and soliciting student feedback is a large part of this process.

As Gavin, Scott, and Tanya explain their teaching beliefs, the concept of “student centered” emerges as a direct phrase they use to characterize their teaching philosophy. This term encompasses the majority of the individual faculty member responses and their ideas around their student audience. Professors are vested in their relationships with their students. They report that their approaches and beliefs are strongly related to whom their students are and the ways in which their students learn.
Professors saw the value in not only connecting with their students, but also in connecting students to each other. Several professors encourage collaboration among their students. Scott reports that socialization between his students is a central component of his instruction. Tanya makes sure her classes collaborate on their reading assignments by having group discussions each week. She describes her struggle and determination with the collaborative process in her classroom,

“It is really challenging for me. Learning how to get students comfortable enough to really share with one another because a lot of times they want to, they do want me to direct the class and they want me to just do the lecture. And as we do group work I think it takes a lot of skill, a lot of teaching skills. I always was kind of reluctant but then I thought, well I'm going to try it and see and one component I really like about it is they're making it all discussion based so they (students) have to respond to discussion questions that are based on the reading and on my little Power Point lecture.”

The relationship between students and professors is beneficial for both parties. According to the faculty members in this study, growth, learning and change take place due to the interactions and dynamics of the teacher/student relationship. Additionally, faculty members acknowledged the student/student relationship and the merits they feel these relationships hold in the learning experience.

*The Colleague Relationship*

Both tenured and non-tenured professors recognized their relationships with colleagues. The inquiry of where teaching practice knowledge comes from, what triggers teaching practice change, and how individual participants knew how to transform their teaching, concluded with
answers regarding collegiate relationships. A desire to collaborate with co-workers, perception of and by fellow colleagues, and advisement from peers all surfaced about the colleague relationship. Moreover, a sense of efficiency was expressed with these peer relationships.

Professors stated that walking down the hall helped them so they would not have to “reinvent the wheel” in their courses or in their teaching decisions.

University teachers collaborate with their colleagues about teaching. Gavin shared a successful experience when working together with his peers. “So in my early career, any opportunities to do team teaching, and I was lucky to have this opportunity… I learned a lot, because her (peer) style is very different from mine, and so we learn how to collaborate, and we also learn from each other.”

Alternatively, Steve had a less successful story to share about transforming a specific area of his teaching, “I asked a lot of people up front, I asked for advice from people. I put a fair amount of thought into it going in, but the overriding feedback I got, was…nothing.”

Faculty members stressed the notion of perception as a component of their peer relationships at the university. Melissa works to lead by example because she wants to be highly valued by her colleagues. When questioned about factors that hinder and/or help her make changes in her teaching, she answered,

“I would say other peoples' perceptions of your classes. Whether you're hard enough, hold students to a high enough standard or too high a standard, and how do they even know because they've never set foot in my class. The whole rumor mill of other faculty judging you and your teaching without information to pass it on. One of the things that slays me about
universities is we pride ourselves on being such objective researchers and we jump to conclusions all the time.”

Tanya was quite familiar with this notion,

“Probably anywhere outside this department (laughing) and certain colleagues, I have colleagues that are very supportive, but you know, I feel like the university, other departments, they really in terms of our department here, first they don't know very much about us but they have a lot of assumptions, that we're very radical or we're just, you know, angry or that we don't do rigorous research. It's like a lot of programs in my discipline I think historically have suffered from that where they've been positioned as inferior throughout their academic department, their research and their courses and their work it's just not as rigorous as, I don't know, as scientific? So that's something we're always having to fight against. I feel like it's important for me to be on, I don't do it much, definitely not as many services outside the university, but it's important for me to be on committees that are not within my department or even in other colleges so that I can be a voice for my program and talk about the work that we do and spread the word.”

Several professors discussed peer relationships in terms of observational purposes. Participants in this study not only chose to be observed by peers and/or chose to observe their colleagues’ teaching, but they highly encourage peer observation as a way to improve teaching practices. Scott talks about his experience,

“I benefit a lot by visiting colleagues classrooms. They visit mine also. We do evaluations of teaching, so we assign, we pair faculty members at least once a year and they'll have one class evaluated if their tenured, or two per year, if you're not. And you go and observe, and you watch, and I learned a lot by watching a faculty member.”
Tina provides a specific account of observing,

“I have a colleague, you've probably heard of her, Professor (Name)… She's incredible. I mean that's the least I can say about her. She is like a movie star, like a star, a rock star. So I said to her, I said I'm going to come and sit in your class. Just one time, it's an experience. So I've never seen anything like this in my life and I was like, oh my God, I want to be like her.”

Patricia recently had a peer observe her classroom teaching,

“We have a new faculty member and so she had been teaching the intro class, she had observed me a few times but now she was going to take over my graduate course so she came and watched me every day, and she would watch and afterwards we would talk about what happened.”

Some participants in this study sought out advice from fellow professors. Janice remembers how challenging writing had been for her students and began talking to other colleagues about their experiences with student writing. She took concrete advice to help her minimize her grading load and provide smaller writing assignments for her students. Steve went to a colleague who had experience teaching online when he was looking to change from face-to-face to online course formats. Sometimes, advice was not sought out but was still relevant and plausible. Bob attended a professional conference where he met a fellow peer in his discipline that triggered changes in his teaching. He experienced a new professional rapport that he found to be beneficial and motivational.

Other participants claimed a lack of peer relationships and did not know who to seek out for guidance about specific teaching queries. Mike detailed this account,
“I have no contemporaries, no one else has been hired in my department, I don't have someone down the hall that I can bounce ideas off of. After this year, unless we make some hires, I will be the only assistant professor in this department and so we're just not making hires. I'm a little isolated in terms of being the new guy so to have a few other young faces and contemporaries that I was able to connect with were nice in the faculty development workshop. I have some great colleagues but they've just been around longer, they're not defining their classes anymore, they're doing it the way they do it and that's that.”

The professors describe the collegiate relationships that exist between them and their peers, both at the institutional and discipline level. The majority of respondents, who talked about collegiate relationships, reported the importance of supportive interactions at their work.

The Mentor Relationship

Often the ideas for pedagogical strategies arose from the relationships professors had made with their graduate advisors and professors. Neil got support from his own mentor,

“‘My advisor is a cognitive ethnographer… Yeah, very qualitative, we're all about going into cultures and understanding different cultures. And so I don't feel strange learning a new topic. It's like, the knowledge for a particular culture to be able to figure out, I don't know, I've never been scared trying to learn something new. So he would always talk about going into different cultures and immersing yourself and the only way to really understand that culture is to immerse yourself in it but you should be able to figure out any culture just by immersing yourself…”
Christine divulged a very different story, learning what not to do, from her PhD advisor. She talked highly of the advisement she received but claimed that this same mentor was a boring lecturer.

The participant responses evidenced that new professors can benefit from having a formalized mentoring relationship with senior faculty members. When Lena was asked about any resources she would suggest to help faculty with their teaching practices, she responded,

“Mentoring them. I say, well, design a little talk, you can advise them on little stuff that you learned, I can help you through the objectives, I'll sit and listen to you before the presentation, I'll sit during the presentation and then critique until you need feedback.”

Monica replied, “I have a mentor… and that’s something I would definitely tell a new person. You know, I would offer to help them find a mentor or to tell them to go looking for one.”

The findings about mentors show a distinction between university teachers who had taught more than 20 years and those who taught less than that. Veteran professors did not acknowledge a mentor or mentoring system as much as the newer professors. While only 18% of the veteran faculty members identified an aspect of mentoring as a trigger to their teaching practice change, a large majority (88%) of newer professors spoke of mentoring as a motivating factor when transforming their teaching. This can simply be explained by time and how long seasoned university teachers have been removed from a mentoring program as a mentee. In fact some professors stated that they never had opportunities to be mentored. Overall, it does show that less experienced professors’ take advantage of mentors to assist them in pedagogical changes. They specifically honed in on the mentor/mentee connection as one that can aid in the development and/or transformation of teaching practices, demonstrate how to be successful in
research, and balance work and personal life. They also conveyed that as junior faculty they may not have any shortcomings, they just may want to improve, and in doing so utilize a mentor. Alternatively, a few participants in this study who became a mentee, attributed their decision to participate in a mentoring program to “teaching related peer pressure”. They felt that it was mandatory to take suggestions from senior faculty or they may be “punished” at tenure.

The Institutional Relationship

The university structure, specific schools or colleges, departments and programs were highlighted within the voices of the participants in this study. With the institutional support or lack of support expressed, teachers found that the dynamics with these academic entities fostered change or impeded change in individual faculty member’s teaching practices.

Faculty members characterized their relationship with their institution based on the university’s teaching and research expectations. Tanya feels like she has to negotiate a game with the university in order to do the work she really wants to do. In her eyes, research is an obstacle to teaching and vice versa; working on teaching causes her research to suffer. Melissa believes that the institution owes it to her and her students to prepare good teachers since they are an educational setting. Janice perceives that the university she works at does not want professors to work on their teaching since they are a research intensive system. Calvin thinks that his institution has a lack of leadership for improving teaching and such a culture needs to be created. Carolyn personally values the role that teaching and research play in the tenure process in her institution.

“I think the tenure process is there for a reason and I think it needs to be taken very seriously and that we have to earn our keep, both as instructors and as researchers. If I'm not
doing my job as a researcher, I don't belong here. If I'm not doing my job as a teacher, I don't belong here. If I'm getting really horrendous student feedback every time I teach a class and I'm not showing improvement, then I shouldn't get tenure.”

A relationship with the professional development program within the institution was frequently mentioned by participants. Some professors referred to the program director of the faculty professional development program, workshop titles, and/or outside speakers by name, experiencing a connection to faculty developers and program topics. Others spoke about modes of faculty professional development that have attracted them to attend workshops. Scott benefits from workshops about the value of reading materials and writing skills. Carolyn and Gavin agree that interactive seminars which are experiential tend to be most helpful for them. Christine gained many of her ideas from attending conferences that incorporated course planning time in their agendas. Yet, a few reported on the positive experiences they had when they attended professional development opportunities that were designed to build rapport with other university teachers. Finally, the institutional relationship was influenced by financial burdens. Steve and Alice focused on the economic pressures their university is under, which they conveyed, increases class size and overall teaching responsibilities. Working at a “poor school” is an issue and ongoing concern for Calvin.

The relationship among university teachers and the organizational setting in which they are situated was acknowledged by numerous participants. Overall, this connection between the professor and the structure of the institution are shown to be problematic as well as not problematic. The nature of these relationships seems to be highly dependent upon the particular school, department, or program context, and the individual faculty member.
Personal Relationships

One commonality among the university teachers interviewed was the importance of personal relationships, and in particular, spouses, parents, children and pets. These intimate relationships at home have an impact on their teaching/learning relationship with students and colleagues. Additionally, participants revealed aspects of themselves that have influenced their roles at work.

Family life was a motivating factor in a number of professor’s professional lives. Janice described her father’s great public speaking skills and her mother’s teaching background as a positive impact on her teaching. Melissa associates her spouse to her success in teaching because he is also in academia, and she has watched him develop and improve over the years. Tanya and Lena maintained that their roles as parents have affected their teaching. Lena refers to her children’s experiences in K-12 education as information that has helped her understand her students better. Tanya explains that her children are her inspiration for striving to be a better professor.

Scott and Bob think that their relationship with their animals helps them understand teaching better. They both indicate nurturance and acceptance as primary factors in teaching students like in training an animal. Further, they discuss the reciprocal relationship that a pet and owner have as an analogy to a relationship between a professor and a student.

The notion of self was a link to the growth and development of many faculty members as well. Voiced in reflective practices, personal goals, past experiences, and personal characteristics, these faculty members opened up about their personhood. They expressed their perceptions of themselves and elaborated on how they think their teaching is a direct product of
their individual qualities. Personality was one aspect of the self that surfaced time after time in the interviewees’ responses in this study. From being self-described as a “pleaser”, a “reflective practitioner”, and “a nurturer” to depicting themselves as “quick-witted”, “flexible”, “self-conscious”, and “practical”, there was a widely held understanding that individuality cannot be separated from professional identity. Further, faculty members divulged that their own boredom triggers change in their teaching. Half of the respondents said that they become bored when they teach the same course in the same way every time.

Past personal experiences also correlated with individual teaching practices. For these participants, changes in home life aligned with changes in the workplace. Faculty members, who experienced positive changes in the past, transcended these experiences to current beliefs and behaviors. Christine likes novelty since that has been her life story moving from place to place. Bob grew up a “craftsman”. He generally wants to fix things and enhance them to make them more effective, and he extends this into his teaching practices.

Past educational experience as a student turned out to be a common association with university teaching. Bob, Neil, Leah, Christine, Steve, Tanya and Carl began teaching at the university level, teaching as they were taught when they were students. “I emulated professors I had that taught well”, said Carl. Tanya explained that her teaching practice knowledge came from, “relying on what I experienced in college.” Bob agreed, “Well I think I always try to model myself after my professors because they were setting the agenda, they knew what the topics were, and what content was there, and what expectations they had for the students, and basically I was trying to model myself after them.”
For many professors, it was the personal accounts or qualities of intimate relationships that tied their beliefs and behaviors to their teaching. For some, it was purely their own developmental process that makes them the person they are today. For others, it was an innate quality they feel they have encompassed throughout their life. Bob uniquely states that since his persona is continually developing, his teaching will continue to evolve, “I am maturing simultaneously with my students.”

Summary of Relationships

Relationships are an integral facet of the teaching experience. University teachers sought out rapport with others, used experiences in personal relationships to facilitate and sustain working relationships, and voiced an understanding of the inherent interactions not only between themselves and their learners but also between themselves and their discipline. Professors are energized by networks and relations. They are motivated by their students, peers, mentors, content, and by the institutional community at-large to make decisions in their teaching.
Chapter 4

Discussion of Findings

This study explains the decision-making process that occurs when individual faculty members transform their teaching practices. Beliefs, relationships, motivators, individuality, context, and the definition of change were captured as factors that impact the teaching change experience. In the sections that follow, the emerging theme of this study along with findings from each research question will be discussed. Also, implications of this research, the need for further investigation, and limitations of this research will be explained.

Relationships

One major theme was generated from this research that helped shed light on the implementation of change in post-secondary teaching. The teaching change process is triggered, approached, reflected upon, and reworked with the influence of others. These relationships include connections that professors have inside and outside the university system. This outcome suggests that the autonomous faculty member needs socialization throughout the establishment and continuing development of their teaching practices. This study confirms that support systems, positive working relationships, and encouragement by administration strongly influence teaching leadership and development (Caffarella & Zinn, 1999; Fairweather & Rhoads, 1995).

Faculty members place the most emphasis on the student-professor relationship to initiate modifications in their teaching. The current investigation found that professors were able to see student population differences and adapt to them, identify modern day student needs, and distinguish teaching and learning differences between undergraduate and graduate learners. Some professors even explained how frequent they perceive student bodies changing. Drawing
on research of professor adaptations (Braxton, 2006; Feldman & Paulsen, 1999; Gibbs and Coffey, 2004; Trigwell & Prosser, 1996), the shifts in student populations are evidenced as a prominent reason to make changes in one’s pedagogy. As a result of the interactions within the student-teacher relationship, faculty members change their practices.

Post-secondary teachers view exchanges with colleagues as helpful to their teaching practice change. When support or encouragement comes from peers or mentors in academia, it enhances motivation in teaching (Blackmore & Blackwell, 2006; Caffarella & Zinn, 1999). Also, knowledge is developed through faculty social interaction (Dancy & Henderson, 2007; Stevenson, Duran & Barrett et al., 2005; Coronel, Carrasco & Fernandez et al., 2003), which informs teaching practices. Regardless of this, the present research discovered that teaching is not widely discussed. Academics tend to initiate interactions with their peers about individual teaching strategies. Fostering faculty collaboration may offer a basis for faculty developers and university administration to devise effective strategies for social learning and ultimately, teaching improvement.

Relationships are evidenced by this study as the central motivating factor for teaching practice change and other research (Feldman & Paulsen, 1999). Although this indicates that supportive teaching cultures are desired and valued by individual faculty members, the nature of academia is isolating. Faculty members make their own decisions regarding their research and teaching (Bess, 1977; Biggs, 1989; Boice, 1991; Caffarella, & Zinn, 1999; Cross, 1999; Cranton, 1994; Sandy et al., 2000). Teaching is one-third of a faculty member’s responsibilities and a large role in the promotion and tenure process, and relationships are declared the prominent
motivator in teaching practice change. These interactions should be actively supported by the institution for individual faculty member growth, professor retention, and student success.

**Beliefs**

Teaching and change beliefs were explored as separate entities. However, university teacher belief systems include change as a major component. Further, student needs and success are a central element of professors’ teaching philosophies. These values regarding learners and transformation intersect at the professors’ teaching practices, where change is influenced by students and students are influenced by faculty member change. Establishing teaching philosophies with core values about students and change is imperative for both the student and the faculty member. When faculty members align their practices with these two specific beliefs, they connect with their student populations. This enhances professional development for individual professors and success for students (Austin, 2002; Braxton, 2006; Gibbs and Coffey, 2004; Sunal et al, 2001; Trigwell & Prosser, 1996). Discussing the socialization process of Academia, particularly the establishment and transformation of teaching philosophies and pedagogical approaches, can help professors with their teaching.

Another main teaching belief among faculty members is teaching for engaged learning. This value ties into the constructivist framework the current study was built on. University teachers use high levels of discussion, learning by doing, and generating ideas in their classrooms. They utilize this constructivist approach to create more meaningful learning, provide opportunities for reflection, and to help students with their own beliefs about content. Professors who participate in constructivist teaching training may actually produce epistemological changes in line with constructivist philosophies (Bruce, McGee & Schwartz et al, 2000). Providing
constructivist faculty training could be an opportunity for post-secondary teachers to construct or transform their teaching beliefs, and aid in sustaining existing values about engaged learning.

Faculty members report that their beliefs ultimately change their practice rather than their practice changing their beliefs. In this study, teaching practice changes were made in congruence with teaching philosophies. Therefore, professors modified their teaching based on student needs, learning styles, goals they set for their students, learner performance, and shifts in student populations, aligning their student-centered beliefs with their classroom strategies. This raises more questions about the individual faculty member’s change process, which will be addressed in the section entitled, “Recommendations for Future Research” below.

A major finding of this study corroborated prior research (Alters and Nelson, 2002; Boice, 1991; Hativa, 1997) and the conceptual framework of constructivism. The majority of university teachers in this study did not have any formal teaching training. Like past studies (Darling-Hammond, 1999, Ehrlich, 1998; Hativa, 1997; Tinto & Pusser, 2006), this finding suggests that professor beliefs about effective and ineffective teaching correspond with personal knowledge they have constructed. Faculty members teach as they were taught based on their own experience as a student. They emulate what they believe to be “good teaching”.

**Motivators**

Investigating the factors that facilitate teacher practice change revealed the individual motivation of professors. Internal and external triggers play a role in the transformative teaching process. Previous studies suggested that intrinsic motivation was crucial to faculty’s commitment to teaching, including change (Bess, 1977; Hativa, 1997; Pintrich & Schunk, 2002). Intrinsically, faculty perceived teaching as a professional commitment and a source of gaining satisfaction for their internal psychological needs. This is consistent with the outcomes in the present study.
Achievement motive (Davis, 1979; Hativa, 1997), a sense of belonging and support, teacher self-efficacy (Bandura, 1989; Dunkin, 2002), beliefs about teaching and change (Gess-Newsome et al. 2003; Mcalpine & Weston, 2002; Sunal et al., 2001), and personality were declared as means to contemplate change. Extrinsically, faculty members declared feedback, student success (Austin, 2002), contexts (Austin, 2002; Braxton, 2006; Gibbs and Coffey, 2004; Feldman & Paulsen, 1999; Sunal et al, 2001; Trigwell & Prosser, 1996), and personal and professional goals ((Davis, 1979; Hativa, 1997) as an impetus for change.

**Individuality**

No previous findings seemed to clearly address the individual change process among university teachers. The literature depicts the institution as the central role in professor transformation, reporting institutional barriers and institutional incentives attributing to the change process (Bess, 1977; Biglan, 1973; Boice, 1991; Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Diamond, 1993; Feldman & Paulsen, 1999; Gess-Newsome et al, 2003; Hativa, 1997; Hubbard & Atkins, 1995; Laird et al, 2008; Neumann et al.; 2002; Pintrich et al., 1993). In contrast, individuality was a strong theme derived from the research questions in this study. Personality, prior experience, personal beliefs, emotions, and energy levels of post-secondary teachers emerged as factors in the transformative teaching experience. Moreover, the notion of individual change in an academic’s personal life transcended their professional life. The unique characteristics of each university teacher are a natural part of their autonomous decision-making in the classroom. Finally, faculty members can be informed or inspired by external factors, but it is the individual will of each faculty member that shapes their strategies as a teacher.
Context

The contextual factors of professor transformation act as a positive, negative, or neutral role in the experience of change. Although past research has found that the university context has a role in impeding teaching practice change more than motivating it (Austin, 2002; Bess, 1977; Biglan, 1973; Boice, 1991; Caffarella & Zinn, 1999; Diamond, 1993; Fairweather & Rhoads, 1995; Feldman & Paulsen, 1999; Gess-Newsome et al, 2003; Hativa, 1997; Hubbard & Atkins, 1995; Laird et al, 2008; Neumann et al.; 2002; Pintrich et al., 1993), this study shows that faculty members believe teaching at a research intensive institution is a hindrance and a benefit for improving their teaching. This is contingent on two different belief systems. The first belief weighs heavily on the notion that teaching and research are two separate entities. Tanya, Melissa, Janice and Calvin expressed how one impedes the other. The second is that teaching and research are related and are not a dichotomy. With this belief, professors in this research thought that working at a research intensive institution helped their teaching practices. They stated, “Teaching is research.”, “I teach through research.”, and “Teaching and research inform each other.” When the relationship between research and teaching are not considered contradictory or competitive, is the context of working in a research intensive institution shown to be a factor in post-secondary teaching practice change? This factor, and its implications for further research, is discussed in the next section.

Professors strongly believe that their collective responsibilities of service, teaching, and research are a hindrance to transforming their instruction. This is supported by others (Akerlind, 2007; Blackmore & Blackwell, 2006; Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Gess-Newsome et al, 2003), who have documented institutional expectations of professor
workloads to contribute to difficulty in teaching responsibilities. Lack of time is the common thread shared by faculty members. There are no differences between new faculty members and veteran faculty members regarding time constraints. All participants claimed that change is time dependent and it was a factor with teaching practice change. There were increased chances to transform teaching practices if and when teachers had the time.

Change

The cognitive change literature indicates cognitive dissonance as a necessary component for transformation. The outcomes in this study supports Festinger’s and Piaget’s theories of cognitive dissonance (Pintrich et al., 1993). However, this study also brings with it new information to add to the current base of change literature in higher education. Dissonance for university teachers was also based on emotional discord. When faculty members became unhappy or bored with their teaching, and prior to this dissatisfaction had general feelings of happiness, they began to strive for resolution with these unsettled emotions. The discord reported in this study extended to a conflict between two emotions: the current negative emotion and the positive emotion attempting to be achieved. This is quite similar to the cognitive change theory where an individual’s experience of disagreement resulting from conflict between two cognitions and/or conflict between a cognition and a behavior, prompts change. Overall, there is a cyclical nature to the implementation of professor transformation. With an increase in emotional or cognitive dissonance came an increase in teaching practice change.
Implications of Research Findings

Contextual Factors in Academia

Teacher conceptions are context dependent, meaning professors and the institutions they work at are not separate (Samuelowicz & Bain, 1992). This study was designed to explore teaching practice change in the context of a research intensive institution. The results suggest that the professor’s beliefs are related to the institutional context, confirming Samuelowicz & Bain’s work. The professors in this research view research and teaching in two different ways. First, university teachers believe these two dimensions of the professoriate are coherent and unitary. Second, university teachers believe research and teaching are competing and segmented.

Academics’ value of the teaching and research relationship are complex and vary in experience and meaning (Fox, 1992, and Robertson & Bond, 2001), as the current study illustrates. How a professor individually perceives and experiences the relationship between teaching and research in a research institution could have pedagogical implications. Further research may want to explore how an academic’s belief system about the relationship impacts changes in their teaching practices.

Changes in Teaching

Professors declare that their students are a central element in their teaching philosophy and a strong motivator for teaching practice change. Therefore, communicating purposes of semester changes to students may be of worth. In addition, sharing their teaching philosophy may serve as an aid when changes are made. These lines of communication can facilitate rapport building with learners and help students understand the purpose of the class design and course objectives. Otherwise, students may not see the direct benefits of teaching modifications, may be
resistant, and may not be as involved in the learning process. Last, when professors make changes in their teaching they should also incorporate an assessment by students of changes made as this dynamic of the student-professor relationships is consistently influential in faculty member teaching transformation.

This study found that the driving force of teaching practice improvement is dependent on the time professors can devote to making a change. Prior research indicates that time constraints are due to high academic workloads (Austin, 2002; Boice, 1991; Caffarella & Zinn, 1999; Cohen, 1988; Cuban, 1988; Diamond, 1993; Fairweather & Rhoads, 1995; Gess-Newsome et al, 2003). This study also suggests that over time, the responsibility of service as a university teacher increases. If change literature declares teaching transformation as a gradual and continual evolution (Kember & Gow, 1992; Kozma, 1985), and university professor workloads are so excessive that change may not occur, where does the allocation of time come for teaching improvement?

Changes are expected by academics from the post-secondary institution to improve student outcomes and overall learning. Typically, these changes are made in the form of adaptations to student populations, pedagogical innovations, and advancement in discipline knowledge (Austin, 2002 and Sunal et al, 2001). Teachers cannot re-invent or reorganize courses and/or change teaching practices in response to every student population change, pedagogical shift, or increase in knowledge base without time allotted to do so. Professoriate responsibilities need to be re-visited so that course load, service, and research expectations are reasonable. This will facilitate quality teaching practice changes and increases in student performance.
Promoting Collegiate Relationships

Teachers can be tremendously motivated to implement teaching practice changes in their classrooms. But if they are not supported, too many roadblocks can discourage even the most highly motivated professor. It takes strong administration and colleagues to provide the support necessary for teachers to successfully change instructional strategies.

Planned opportunities for collaboration can alleviate the feelings of isolation, strengthen the feelings of inclusion, and ultimately, increase teaching motivation for professors. Teaching strategies ought to be an inherent part of agendas in program meetings, probationary reviews, structured mentoring programs, and administrator-professor interactions. Making teaching practices an intentional discussion between colleagues can inform faculty members of innovative pedagogy and everyday successes in the classroom. It can also lead to efficient decisions on course designing and re-vamping, help strategize good teaching for student needs, and assist professors in the tenure process.

Also, encouraging discussions about teaching philosophies with faculty may help with identifying instructors’ needs for change and his/her personal teaching style in maintaining the changes. Graduate courses, new faculty orientations, faculty professional development workshops, faculty trainings, and mid-probationary reviews are starting points for conversations about teaching beliefs and their implications.

Higher education teachers express great advantages of a mentoring system in terms of general socialization and advisement within an institution. This investigation extended the list of benefits to include motivational triggers of teaching practice change. Nonetheless, few schools assign senior faculty members to mentor their new colleagues in teaching practices (Ehrlich,
Those universities that do have mentoring programs tend to have a formal mentor-mentee relationship for first-year faculty members only and focus on research or content rather than pedagogy. Because the majority of academics arrive at the university doorstep with minimal teaching training (Darling-Hammond, 1999; Ehrlich, 1998; Hativa, 1997; Tinto & Pusser, 2006) and they indicate that relationships drive them to transform their practices, a purposeful mentoring structure is necessary for both the development and transition of teaching practices. When administrators recruit and assign mentors, they should consciously recruit teachers who have evolved in their teaching so that senior faculty can have a positive influence on junior faculty.

Faculty Professional Development

Through professional development experiences, academics learn about successful teaching strategies and hear first-hand about the instructional and student benefits as a result of pedagogical changes. Many outcomes uncovered in this study may be utilized as a reference point when attracting attendees, advertising, and designing faculty professional development workshops.

First is the subject of teaching philosophy. Faculty member’s belief systems have a positive effect on teaching practice change. How are these teaching values established? What factors influence belief transformation? Faculty professional development programs may be able to find these answers and personalize workshops with a teaching belief focus.

Second, interactions and connections with students were noted as the fundamental reason for faculty members making changes in their teaching. Creating workshops around the notion of how to connect with students, effectively communicate with them, solicit student feedback,
understand the current shifts in student populations, and motivate them to participate in their learning process supports concrete student-centered training. Collaborative exercises and strategies in the classroom are an additional way to address the importance of student-student relationships and learning communities.

Third, this study concluded that personal growth and individuality played a role in teaching practice change. Comprehensive faculty development programs (Hubbard, & Atkins, 1995 and McKellar, 1996) addressing both personal and professional development may be a next step in enhancing teaching. For example, professors may be attracted to the idea of setting career goals, reflecting on beliefs, acknowledging strengths and weaknesses in their teaching, and becoming aware of their own triggers that motivate their achievements.

Fourth, faculty developers may want to take an in-depth look at the role of context in teaching practices. This research proposes that depending on the nature of the faculty professional development topic and the purpose of training, workshops should be conducted in a universal or customized manner. It has been established that teaching beliefs are contextual (Fox, 1992; Robertson & Bond, 2001; Samuelowicz & Bain, 1992). When teaching beliefs and strategies stem from a larger institutional dynamic (e.g., the experiences of the relationship between research and teaching at an R1 institution), a diverse academic audience ought to be considered. Alternatively, some teaching dynamics lend themselves to particular disciplines and vice-versa. Under these circumstances, tailoring faculty professional development activities are fitting.

Fifth, this investigation found that emotional dissonance was a common trigger of teaching practice change among faculty members. Conducting workshops that allow teachers to
identify how their own emotions affect their learning, may aid in faculty members conceptual changes in their teaching.

The purpose of faculty professional development is to help individual faculty members’ teaching evolve (Biggs, 1989; Davis, 1979; Gibbs and Coffey, 2004). Faculty developers design seminars in a myriad of ways to achieve this goal. Collaborative trainings, hands-on workshops, and personal planning function to serve collectively or individually.

Limitations

The participants in this study were faculty members who had already attended a faculty professional development workshop on their current university campus. This sample was chosen for the relevance of the study. Participants who had considered change or reflection of their teaching practices are related to the study context of teaching practice change experience. Therefore, faculty members who have not attended a faculty professional development workshop were not represented in the design or outcomes of this research.

One significant aspect of research is securing confidentiality of the participants. For this study, maintaining confidentiality meant omitting very specific perceptions and/or experiences of faculty members that may jeopardize their anonymity. The findings are accurate perceptions. However, some quotations have been altered to protect participant identity. Consequently, participants’ responses were not documented in their entirety.

There was possible researcher bias as the lead investigator was the only person who collected and analyzed data. The researcher also has a vested interest in the teaching practice change experience as a current facilitator with a faculty professional development program. In order to control for this limitation, a chain of evidence was established by describing the data
collection and analysis in this study, consulting with a peer auditor, conducting member-checks, and creating a coding index for pattern matching.

Recommendations for Future Research

There are several important next steps for researchers regarding faculty member teaching practice change. These recommendations pertain to post-secondary pedagogy, professor motivation, and faculty professional development literature.

1. Using the themes for teacher motivation established in this study, create a quantitative survey to distribute to a diverse population of teachers who have implemented change in their teaching to find out if these themes ring true for a larger sample size.

2. Brain research has recently looked at the concept of hot cognition and the role it plays in learner motivation. The research has been confined to K-12 education. This study suggests that the combination of cognitive and emotional dissonance prompted changes in post-secondary teaching. It is recommended that further research be conducted with adult learners to understand the dynamics between emotional and cognitive forces in the change process.

3. Explore the administrative role more deeply in regards to faculty professional development. Post-secondary teachers believe collegiate relationships are important for teaching transformation. Is administration in agreement with this? Investigating administrative beliefs, expectations, and roles on the topic of teacher transformation may shed some light on contextual factors and organizational support of faculty member teaching practice change.
4. University teachers report that their teaching practices change due to their beliefs about teaching and change efforts. When academics desire a change in their teaching, do they reflect on their beliefs, transform an aspect of their belief system, or maintain their current values before they make improvements? Do teaching philosophies other than student-centered philosophies (e.g., teacher-centered and performance-centered) result in the same outcome of congruency with practices and beliefs? And do the faculty members who hold these philosophies report that their beliefs change their practice or their practices change their beliefs? What are the specific values that these professors believe about teaching and change, and what factors ignite their transformation? A closer look at the dynamics of teaching beliefs and teaching practices is important for change research and faculty professional development programs.

5. There were issues that surfaced during this research that were beyond the scope of the study and do require further investigation. First, “erroneous teaching conceptions” emerged as a concept that could be problematic for making proper changes in teaching. Further research into teaching misconceptions and their role in making effective teaching pedagogical changes may be of interest. Second, “de-motivators” surfaced as a possible factor in the resistance of professor teaching transformation. Studying university teacher changes that immobilize professors to make future changes could contribute to the teaching practice change literature.

Conclusion

By identifying and explaining these major themes, a roadmap has been provided to help administrators and faculty developers support the continual evolution of faculty member
teaching practices. It enables more teachers to have greater impact on the lives of their students. It is the hope that these teaching changes inspire other higher education teachers to reflect on their development as academics.
Appendix A: Initial Email to Participants

Hello Dr. ____________,

My name is Julie Sanchez and I am an Educational Psychology doctoral student at the University of New Mexico. I am studying how and why faculty members here at the University of New Mexico change their teaching practices. I am interested in interviewing tenured and/or tenure-track professors to see how their individual experience in teacher practice change is influenced and/or triggered. I am focusing on the factors that trigger and/or support the ways in which you decide to improve your teaching with your students and in your classrooms. Little prior research has been conducted on the change process among individual professors and their instructional strategies. This study can provide information to help faculty professional development programs better understand the motives and process behind teaching practice transformation.

I am attaching the consent form for you to review so that you can get a full understanding of this study and see what you will be signing to participate in this research. You can print a copy and bring it with you if you decide to participate or I will have a copy for you to sign.

If you would like to learn more about my study with the option of participating in a 1 hour interview, please contact me at (505) 688-0187 or jreed@unm.edu.

Thank you,

Julie Sanchez
Appendix B: Consent Form

CONSENT TO PARTICIPATE IN RESEARCH

INTRODUCTION
You are being asked to participate in a research study that is being done by Julie Sanchez, who is the Principal Investigator from the Department of Individual, Family and Community Education. This research is studying how and why faculty members change their teaching practices. Specifically, this study is exploring the triggers or factors that activate professors to make changes in their instructional strategies. You are being asked to participate in this study because you fit the participant criteria of being a full time assistant, associate or full professor who is either tenured or tenure-track and has participated in one or more OSET (Office of Support for Effective Teaching) workshops. Twenty faculty members will take part in this study at the University of New Mexico. This form will explain the research study, and will also explain the possible risks as well as the possible benefits to you. If you have any questions, please ask the study investigator.

WHAT WILL HAPPEN IF I DECIDE TO PARTICIPATE?
If you agree to participate, the following things will happen:
- You will be asked to complete a demographic and background information survey. The survey will address demographic questions and ask about your university teaching background.
- You will be asked to take part in a semi-structured interview with the researcher. The interview will be scheduled at your convenience in the place of your choosing. The interview will ask questions about your experience with teaching practice change. Participation in this study will take about 90 minutes for the survey and semi-structured interview.
- You will be asked to be contacted for follow-up questions and for the accuracy of the analysis of your interview responses. Any potential follow-up questions may take up to a half hour.

HOW LONG WILL I BE IN THIS STUDY?
Participants will be involved in this study until it ends in May 2011. This means you may be contacted between now and the end date of this study.

WHAT ARE THE RISKS OF BEING IN THIS STUDY?
There are risks of stress, emotional distress, inconvenience, and possible loss of privacy and confidentiality associated with participating in a research study. However, this is a minimal risk research study. Any information obtained in this study that can identify you will remain confidential and will be disclosed only with your permission or as required by law. There are no foreseeable physical, social, legal or psychological risks to you from this research.

WHAT ARE THE BENEFITS TO BEING IN THIS STUDY?
There are a variety of benefits to be gained from this study. You will be helping a graduate student with her dissertation research. You may gather insights into your teaching behavior that may allow you to improve your teaching. The results from this study may also benefit post-secondary education bringing attention to faculty member teaching practice change and adding to faculty professional development literature. This study may assist in informing university professional development programs about individual professor teaching practice change.

**HOW WILL MY INFORMATION BE KEPT CONFIDENTIAL?**
I will take measures to protect your privacy and security of all your personal information, but cannot guarantee confidentiality of all study data. In order to ensure confidentiality, your name will be linked with a number. The key between your name and number will be kept in a secure location where only the researcher has access to it. If you choose the interviews to be audiotaped, these tapes will only be used for research purposes and will be kept in a secure location for the duration of the study and erased after termination of the study The University of New Mexico IRB that oversees human subject research will be permitted to access your records. There may be times that I am required by law to share your information. However, your name will not be used in any published reports about this study.

**WHAT ARE THE COSTS OF TAKING PART IN THIS STUDY?**
You will not be charged for any procedures related to this study.

**WILL I BE PAID FOR TAKING PART IN THIS STUDY?**
There will be no monetary compensation or incentives for participating in this study.

**HOW WILL I KNOW IF YOU LEARN SOMETHING NEW THAT MAY CHANGE MY MIND ABOUT PARTICIPATING?**
You will be informed of any new significant findings that become available during the course of this study, such as changes in the risks or benefits resulting from participating in the research or new alternatives to participation that may change your mind about participating.

**CAN I STOP BEING IN THE STUDY ONCE I BEGIN?**
Your participation in this study is completely voluntary. You have the right to choose not to participate or to withdraw your participation at any point in this study without affecting any services to which you are entitled. You may also refuse to answer any questions you do not want to answer and still remain in the study.

**WHOM CAN I CALL WITH QUESTIONS OR COMPLAINTS ABOUT THIS STUDY?**
If you have any questions, concerns or complaints at any time about this research study, you can contact Julie Sanchez, MA at (505) 277-4535 and/or Julie Sanchez’s dissertation chair, Dr. Jay Parkes at (505) 277-3320. If you would like to speak with someone other than the research team in regards to any complaints you have about the study, you may call the UNM IRB at (505) 272-1129.
WHO CAN I CALL WITH QUESTIONS ABOUT MY RIGHTS AS A RESEARCH SUBJECT?
If you have any questions about your rights as a research subject, you may call the UNM IRB at (505) 272-1129. The IRB is a group of people from UNM and the community who provide independent oversight of safety and ethical issues related to research involving human subjects. For more information you may also access the IRB website at http://hsc.unm.edu/som/research/HRRC/maincampusirbhome.shtml.

CONSENT
You are making a decision whether to participate in this study. Your signature below indicates that you read the information provided (or the information was read to you). By signing this consent form, you are not waiving any of your legal rights as a research subject.

I have had an opportunity to ask questions and all questions have been answered to my satisfaction. By signing this consent form, I agree to participate in this study. A copy of this consent form will be provided to you.

__________________________________________________________
Name of adult subject (print) Signature of adult subject Date

INVESTIGATOR SIGNATURE
I have explained the research to the subject or his/her legal representative and answered all of his/her questions. I believe that he/she understands the information described in this consent form and freely consents to participate.

__________________________________________________________
Name of Investigator (print)

__________________________________________________________
Signature of Investigator Date
Appendix C: Demographic and Background Information Survey

Please mark one answer for each of the following questions.

1. My ethnicity is:
   - [ ] Hispanic or Latino
   - [ ] Black or African-American
   - [ ] Asian
   - [ ] White
   - [ ] Native American or Alaskan Native
   - [ ] Native Hawaiian or Pacific Islander
   - [ ] Other □ Prefer not to respond

   If other, please specify: _________________________________.

2. My gender is:
   - [ ] Male
   - [ ] Female

3. My tenure status is:
   - [ ] Tenured
   - [ ] Tenure track
   - [ ] Non-tenure track

4. The program I teach in is: _________________________________.

5. In a normal year, the total credit hours I teach:
   Fall _____________  Sp _____________  Su _____________

6. The course(s) I am teaching this semester is/are:
   __________________________________________________
   __________________________________________________
   __________________________________________________
   __________________________________________________
   __________________________________________________.

7. I have been teaching as a professor for a total of:
   - [ ] 1-3 years
   - [ ] 4-6 years
   - [ ] 7-10 years
   - [ ] 11-15 years
   - [ ] 16-20 years
   - [ ] 20 years +

8. I was a teaching assistant in my graduate program.
   - [ ] Yes
   - [ ] No

98
9. Please state the percentage of time you spend in each area based on your time as a professor. Please make sure your percentages add up to 100%.

______ teaching
______ service
______ research

__________
100%
Appendix C: Interview Protocol

Teaching Practices

Now that you have completed the survey, let's get started with the interview. I will turn on the audio recorder and we can start with any questions you may have. Are you ready for me to start the recorder? If you do not have any questions, then I will begin.

1. Where would you say the majority of your teaching practice knowledge comes from?

2. Suppose I am a new faculty member. What suggestions would you provide to me if I asked you about resources on campus to assist me in my teaching?

3. What would you say are your major beliefs or philosophy about your own teaching practices are?

Background Information

4. The last couple of questions on your demographic survey asked you about your faculty professional development workshop or conference attendance. Can you describe if professional development workshop(s) you have attended were a possible change agent in your teaching?

5. Based on the fact that you have attended at least one event, which mode of professional development, if any, would you say motivated you the most to improve your teaching practices (i.e. workshops, peer class visits, conferences, etc…)?

6. What would you say are your beliefs or philosophy about making changes in teaching are?

Facilitation of change

7. I want you to think about a time in your career where you made a change in your teaching practices…a time that stands out the most for you. It could be in the last year, with the class you have taught the longest or possibly when you were a new faculty member learning about your students and teaching style. If you have more than one, choose the one that comes to mind first and we can explore others as the interview progresses.
   a. Follow up prompt (if answer is no): Is there an area of your teaching that you have been thinking about changing?
   b. Follow up prompt (if answer is no): If you could make one change to any area of your teaching practices, what area would that be, if any?

8. What exactly was the change that you made?

9. How did you decide that this area needed change or was the change encouraged by someone other than yourself (i.e. colleague, dept. chair)?
10. If you remember a defining moment that triggered your decision to make a change in____________________, could you describe it?

11. Would you say your change in __________________________ was for a specific course or for more than one class?

**The Process of Change**

12. How did you know how to make the change you were working on?

13. What factors played a role in the change process (beginning, during and implementation of change)?

14. Some people experience change with emotions, thoughts, behaviors and/or a combination. How would you describe your change process? (follow up prompt: What do you think professors must resolve as they experience the change process?)

**Reflection of change**

15. Did any specific behaviors change in your teaching following this experience in ______________?

16. Did any specific beliefs change in your teaching following this experience in ______________?

17. What would you say on how you experienced your change in ______________? Would you say that your beliefs changed your practice, that your practice changed your beliefs or that they changed simultaneously?

18. Would you say that your process of change in ______________ is an effect of working within a specific context in this university (i.e. research intensive university, professional cultures of the academy, setting of the classroom, discipline, etc…)?

19. Can you explain your view of this impact in more detail? For example, I would like to know more about__________________________.

20. In my teaching experience as a TA, I __ (give example of not changing when I could have)____________________________. Have you experienced a time when you could have made some changes in your teaching practices but chose not to? Describe this process.

21. Have you ever made a change in your teaching that “flopped”? (If yes, ask questions # 6-#17)
22. What did you do as a result of __________________________not working (i.e. returned to previous practice, went to faculty development, etc…)?

23. Is there another time in your career where you made a change in your teaching practices that you would like to discuss? (If yes, ask questions # 6-#17)

24. As I mentioned in the consent form, I may contact you before this study ends in May about your responses and/or to ask any further questions about your teaching? What is the best way for me to contact you?

25. If you think of anything further, please feel free to contact me via email or telephone that is stated on the consent form.
## Appendix E: Coding Index (Item RQ 1)

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## Appendix F: Coding Index (Item RQ 4)

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References


http://education.stateuniversity.com/pages/2366/Research-Universities.html#ixzz0U2N4eYYF


112


Kurfiss, J. (Ed.) To improve the Academy: Resources For Students, Faculty, and Institutional Development. Stillwater, OK: New Forums.


