Name of Publication: NATIONAL SOCIAL SCIENCE JOURNAL
Issue: Volume 47 # 2 ISSN 2154-1736
Frequency: Quarterly
Offices of Publication: National Social Science Association
Mailing Address
2020 Hills Lake Drive
El Cajon, CA 92020

Office Address:
9131 Fletcher Parkway, Suite 119
La Mesa, CA 91942

On Line journals: http://nssa.us
E-mail address: natsoesci@aol.com; nssa1@cox.net

The National Social Science Journal is being abstracted in: Cabell's Directory; Eric Clearinghouse; EBSCO, Economic Abstracts; Historical Abstracts; Index to Periodical Articles; Social Science Source; Social Science Index; Sociological Abstracts; the University Reference System.

We wish to thank all authors for the licensing of the articles. And we wish to thank all those who have reviewed these articles for publication.

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Embracing Multiculturalism in Choral Music Education

David Akombo
Loretta Galbreath
Jackson State University

Introduction

In recent years, there has been a merging of choral world music into Western culture and music education curriculum leading to a profound impact on music educators. With the incorporation of worldwide styles of music and the arts into our teaching and learning, the questions concerning multicultural inclusion are multiplying. This inclusion involves creativity, expressivity, identity, and hybridity. This area of study may present challenges for many teachers who are not familiar with music from other cultures, or who are untrained in the authentic performance practices of such cultures. Through focused study of performance practice within a culture, choral educators can better understand how to teach and present an informed performance and thereby represent the repertoire in a manner true to its culture.

Creativity-Based Approaches

In order to better assist middle and high school choral educators incorporate multi-cultural music styles into their curriculums, this article highlights the Mississippi Content Standards and the guidelines that the educators need to apply. This being a problematic area for music educators in Mississippi, the authors want to offer an interpretation of The Mississippi Content Standards. Those guidelines should be dictated by the cultural milieu. The authors in this article attempt to address philosophical questions as: What if the guidelines were based on the aesthetics imbued within the cultural musical elements such as harmony, melody, rhythm, form, and expressive qualities? In addition, what if music educators considered other forms of aesthetic expressions from those cultures which may include extra-musical characteristics such as ululation, clicks, etc.? Would that constitute the concept of understanding the music of various cultures? What are the ethnomusicological ideas that should be included in the teaching of an African song before it can be arranged into a band piece? The authors have chosen specific literature in order to demonstrate these characteristics which are inherent particularly within the African music in order to provide the educators with the benefits of cultural understanding of authentic forms of arts. Hopton-Jones (1995) has observed that there are many different benefits from studying and performing African repertoire in its authentic form:

By learning something about how music interacts with the culture from which it springs, students can start to gain a better understanding of the people of the culture. This is the principle goal in developing cultural sensitivity… (p. 26).

Expressivity-Based Approaches

The performing characteristics of African music are similar in many areas of the African continent and can easily be transferred. There has been an abundance of choral and band literature published on this subject. Some of the choral literature is published in African languages such Kiswahili or Swahili, which are generally spoken in East African countries such as: Kenya, Tanzania, Uganda, Rwanda, Burundi, and southern parts of Africa. African band music that has been published has origins in Sub-Saharan Africa. African music can also provide opportunities for research on the exploration of the transformation from African music to the African-American spiritual.

There are four aspects of African music I will focus on: text, melody, rhythm, and movement. One of the constant ideals in African music is that the text leads the music, (Hopton-Jones, 1995). Hopton-Jones observed “…musical sounds are derived from the sounds of the language... [and] takes precedence over
the music” (p. 27). African music relies heavily upon storytelling and the melody is based upon the sounds that would normally be heard in the language itself. Hopton-Jones also stated that due to the close relationship of text and language, it is a natural occurrence to think of the music “horizontally, by focusing on the melody as a single line” (p. 28). In regard to rhythm, polyrhythmic textures are often utilized. According to Hopton-Jones, syncopation and hemiola techniques are used frequently in African music. Much of African music is written in 6/8 meter which best accommodates syncopation and complex rhythms (p. 28).

Movement is determined by the type of music that is being played or sung as well as the event for which the music is performed. Specific dances are performed for different ngomas or traditional pieces (Barz, 2004). These dances are often passed down from generation to generation. During singing competitions, groups of people often have a traditional dance routine that accompanies the singing. By placing emphasis on the four characteristics of text, melody, rhythm, and movement, one can better determine how to incorporate East African choral music in a more authentic manner.

Each of the aforementioned musical characteristics can be closely examined by looking at Jambo Bwana published in the Anthology of African Band Music, by the University of Hawai’i Press. This selection portrays the important characteristics of text, melody, rhythm, and movement, and it appropriately exhibits the tenets of the National Standard of Music Education, Standard No. 9. It is more exact and it fits well with both middle and high school musical levels. By studying these multicultural components of music education, choral and band educators can be more equipped to teach and perform repertoires that best represent music literature from Africa.

Identity-Based Approaches

Few studies have examined the influences music education has had on the formation of identity, particularly concerning the education of young people on multiculturalism (Godt, 2005; Rubenstein, 1967). The effects of a variety of musical and non-musical developments and/or adaptations may influence the formation of musical identities since the individual has to develop and adapt alongside these changes (Heerden, 2007).

The discipline of ethnomusicology, defined as the study of music outside the European art tradition or study of music in a socio-cultural context, has been of tremendous help to the field of music education (Mark, 1977). This interest has had a profound impact on music educators, specifically elementary and secondary music programs. There are many different benefits from studying and performing African repertoire in its authentic form. Hopton-Jones (1995) stated:

By learning something about how music interacts with the culture from which it springs, students can start to gain a better understanding of the people of the culture. This is the principle goal in developing cultural sensitivity. (p. 26)

While the National Association for Music Educators (NAfME) national standards are undergoing review, the Mississippi Content Standards, Fine Arts Connections under the major concept of History and Culture, made reference to the current 6th standard by stating that children should “understand music of various styles and cultures, and its relationships with other arts” (Mississippi Department of Education – Content and Performing Standards, 2012).

In this respect, children should perform a varied repertoire of music from a variety of styles and cultures. This area of study may present challenges for many music educators who are not familiar with music from other cultures, or who are untrained in the authentic that is made or done the same way as original performance practices of such cultures are done. Through focused study of performance practices within a culture, music educators may do service to both students and audiences by teaching and presenting an informed performance. They can thereby represent repertoire in a manner true to its culture. In doing so, choral conductors can be better informed when choosing repertoire that best authentically represents the various culture. To better aid middle and high school choral educators with this directive, this paper, in part, highlights the Mississippi Content Standard No. 4 which states children should “compose and arrange music within specific guidelines” (Mississippi Department of Education – Content and Performing Standards, 2012).
In light of what every state views as “guidelines;” I want to offer a suggestion. The guidelines should be dictated by the cultural milieu. These guidelines could be based on the cultural musical elements such as harmony, melody, rhythm, form, and expressive qualities from those cultures. This approach could include extra musical characteristics such as ululation and clicks, etc., and it could also create an understanding of music of various styles and cultures.

What are some ethnomusicological ideas that should be included in the teaching of an African song before it can be arranged into a choral piece? This article attempts to answer this and other questions. Specific literature has been chosen to demonstrate some of the characteristics that are inherent in African music. The performing characteristics of this music are similar in many areas of the African continent and can easily be transferred. There is much choral literature already published on this subject. Some of the choral literature is published in African languages such as Kiswahili or Swahili. These languages are generally spoken in East Africa—Kenya, Tanzania, Uganda, Rwanda, Burundi, and southern parts of Africa. Much of the African choral music that has been published has origins in the Sub-Saharan Africa. African music can provide opportunities for further research on the exploration of the transformation from African music to the African-American spiritual. The African traditions favor improvisation or variations on a theme as does the African-American spiritual.

Hybridity-Based Approaches

This document focuses on four aspects of African music: text, melody, rhythm, and movement. One ideal in African music is that the text leads the music. “Musical sounds are derived from the sounds of the language… [and] takes precedence over the music,” (Hopton-Jones, 1995, p. 27). African music relies heavily on storytelling, and the melody is based on the sounds that would normally be heard in the language itself. Hopton-Jones also stated that due to the close relationship of text and language, it is a natural occurrence to think of the music “horizontally, by focusing on the melody as a single line” (p. 27).

It is difficult to express the entire character of an African American spiritual by mere musical notes and signs because these art forms are derived from the seventeenth century unwritten forms of African music brought by slaves. This music which was spontaneous and outpouring of the spirit later morphed into what was then known as Slave Songs or Negro Spirituals. The African American spirituals have adopted the Afrocentric spontaneity of the odd turns being made in the throat, and the curious rhythmic effect produced by single voices chiming in at different irregular intervals. Such nuances as the singing of birds or the tones of an Aeolian harp by all means seem almost impossible to place on the score (See Allen, 1867, p. vi).

A small number of songs are based on the minor scale, and there are a few songs that use tones of the medieval church modes (Dorian, Phrygian, Lydian, Mixolydian, Aeolian). The following song, in Figure 1, suggests the minor but actually uses tones of the Dorian mode (as D E F G A B C D).
Regarding rhythm, polyrhythmic textures are often utilized. Syncopation and hemiola techniques are used frequently in African music (Hopton-Jones, 1995). The basic pulse of the music is supplied by drums and other percussions in Africa, but by clapping and/or stomping in the United States where the use of drums was prohibited. Against the fixed rhythms of the pulse, the melodies moved freely, producing cross-rhythms that constantly clash with the pulse patterns, thus resulting in polyrhythm or multi-meters.
Figure 2 illustrates the rhythmic features and musical texture of African music.

```
No-bod-y knows de trou-ble I've had, No-bod-y knows but

Foot Tapping

Hand Clapping

Je-sus, No-bod-y knows de trou-ble I've had, (Sing) Glo-ry hal-le-

lu! One morn-ing I was a-walk-ing down, O yes,

Lord! I saw some ber-rie's a-hang-ing down, O yes, Lord!
```

2. I pick de berry and I suck de juice, O yes, Lord!
   Just as sweet as the honey in de comb, O yes, Lord!
3. Sometimes I'm up, sometimes I'm down,
   Sometimes I'm almost on de groun'.
4. What make ole Satan hate me so?
   Because he got me once and he let me go.

Figure 2. “Nobody Knows de Trouble I’ve Had,” from Slave Songs of the United States (Used by permission).

According to Hopton-Jones, much of the music is written in 6/8 meter which best accommodates syncopation and complex rhythms. Movement is determined by the type of music that is being played or sung as well as the event for which the music is performed. Specific dances are performed for different
ngomas or traditional pieces (Barz, 2004). These dances are often passed down from generation to generation. During singing competitions, groups of people often have a traditional dance routine that accompanies the singing. By placing emphasis on the four characteristics of African music, text, melody, rhythm, and movement, one can better determine how to incorporate East African choral music in a more authentic manner. Each of the aforementioned musical characteristics will be closely examined.

**MOJA MBILI TATU NNE**  
Swahili counting song from Kenya

Optional acc. djembes, log drum, cabasa, bongos, tambourine, cymbals

Dr. David O. Akombo

![Musical notation]

The selection shown in Figure 3 was chosen because it clearly portrays the important characteristics of text, melody, rhythm, and movement, and it is appropriate for middle school bands. By studying these performance characteristics, choral educators can be more equipped to teach and perform repertoires that best represent choral literature from Africa. This piece is essentially in call and response format. The function of call and response, common to the African tradition, is to signify agreement and togetherness. The singers who call expect a response, and the response is expected to be a positive one. A negative response equals disagreement. Singers will continue calling until there is a positive response. There are other melodic characteristics that pertain to East African music. Much of the melodies of African music are derived from the pentatonic scale, however, it is not necessarily the case in all African music. Melodies are often comprised of short repetitive motifs. The repetition itself is an African trait, which is meant to create unity amongst the audiences and singers alike.

**Conclusion**

This article shows that both non-Western and Western music educational philosophies are inextricably intertwined, and it is up to the music educator to bring these to fruition. By analyzing this diverse, and often contradictory literature on multiculturalism, we can begin to define and understand the role of multiculturalism in music education and, in particular, the use of African and African American music. It is imperative that music educators include both non-Western and Western perspectives in music education.
education because it has been projected that the overall population and the composition of the children from diverse population is expected to change over the next four decades (US Census Bureau, 2008).

Leading international music educators have also recommended a shift of the music education curriculum to include global repertoire.

Music education is the invention and establishment of musical and pedagogical environments, situations, and events for the purpose of inducing fruitful music actions. These music actions are often referred to as skills, involve singing, listening to music, playing instruments, creativity, movement, and notation. Knowledge of multicultural music is experienced through active involvement in the learning process as participants gradually develop their skills.

References
Developing Educational Leaders Through Collaboration and Reflective Practice

Donna Azodi
Cindy Cummings
Daryl Ann Borel
Lamar University

Introduction and Background

The quality of training principals receive in educator preparation programs before they assume their positions has a lot to do with whether school leaders can meet the expectations of these jobs (Darling-Hammond, LaPointe, Meyerson, Orr, & Cohen, 2007). It is the responsibility of principal preparation programs to adequately equip future principals for the role of instructional leadership through mentoring and school-based internship/practicum experiences. Further, the Lamar University’s educator preparation program provides the candidates ample time to reflect on their internship experiences and how these experiences inform their future role as an administrator.

Lamar University’s Education Administration online program prepares aspiring principals to perform at high levels through a multilayered approach. In addition to required coursework, candidates and campus mentors work to collaboratively create a practicum/internship plan for field experiences that provides the framework for the development of candidates’ leadership skills. The components of the practicum plan have been aligned and correlated to the Texas Education Agency Principal Educator standards and Educational Leadership Constituent Council Building Level standards (National Policy Board for Educational Administration (NPBEA), 2011). One of the components in which candidates participate is three small group synchronous meetings with field supervisors who are educational experts serving as mentors. These field supervisors acting as mentors support candidates as they discuss their practicum activities, program progress, as well as leadership experiences. Moreover, the field supervisors support and guide the candidates’ participation in realistic experiences.

Review of the Literature

Collaboration

Developing aspiring school leaders requires clearly defining their responsibilities, acknowledging their pivotal role in improving schools and student performance and providing access to collaborate with mentors, external educational experts and their peers. According to Schleicher (2012), supporting collaborative work cultures, such as collaborating with other school leaders or communities around them, has become an increasingly important and recognized responsibility of school leaders. Additionally, school leaders stated that sharing resources and ideas helped them to face the many demands on their time and energy, and mutual support helped them to cope with difficulties (Schleicher, 2012). Furthermore, the author suggested that collaboration with other leaders and peers can help to improve problem-solving through intensified processes of interaction, communication and collective learning. Overall, collaborative preparation programs are believed to be “of better quality and … more effective, particularly in their instructional leadership ability, capacity to transition well into leadership roles, and understanding of district functions and processes” (Orr, King, & LaPointe, 2010, p. 120).

Internships, Practica, and Field Experiences

Internships, practica, and field experiences, used interchangeably across programs, have been identified as an essential component for educational preparation programs (19 Chapter 2014; Implications from UCEA, 2010; Taylor et al., 2012). The ELCC Building Level Standards (NPBEA, 2012) and Texas
Administrative Code (19 Chapter, 2014) described an educational leadership internship as school-based experiences supervised by a qualified on-site mentor. Seashore Louis, Dretzke and Walhstrom (2010) stressed the significance of school principals as instructional leaders. However, for this to happen, future school leaders need to participate in authentic school leadership activities to obtain the knowledge and skills used by effective leaders. (Gary, Fry, Bottoms & O’Neill, 2007; Milstein & Krueger, 1997). Internships should be designed to provide future leaders with opportunities where they examine and participate in processes related to instructional leadership, school improvement, and student achievement (Geer, Anast-May, and Gurley 2014).

Leadership

Davis, Leon and Fultz (2013) found that leadership expertise was developed by the integration of college credential programs, candidates’ professional experiences and personal characteristics. They also suggested that leadership development was enhanced by candidates participating within a network of colleagues in which professional as well as emotional support was provided. Additionally, Gray, Fry, Betty, Bottoms and O’Neill (2007) have indicated that highly skilled school leaders have been rigorously prepared and deliberately mentored in well-designed programs that immerse candidates in real-world leadership experiences where they are challenged to excel. Avci (2015) further expounded that rapidly developing innovations and organizational change within education create a significant need for skilled individuals with leadership characteristics. Moreover, Avci contended that the leadership characteristics of school principals had a significant effect on organizational trust, school culture and climate and the quality of education and training.

Mentoring/Experts in the Field

According to Pont, Nusche and Moorman (2008), a mentor is a person with knowledge and skills in a certain area, such as principalship, who is willing to assist someone who is less knowledgeable. According to Gray, Fry, Bottoms, and O’Neill (2007), internship, practica, and field experiences must be managed by veteran practitioners who have the knowledge, time and commitment to ensure that aspiring principals are engaged in authentic experiences that enable them to develop their leadership competencies. Exceptional mentors provide timely feedback and coaching that will help principal interns transition from the role of classroom teacher to that of school leader. For adult learners, Mulford (2003) acknowledged that modeling and hands-on activities enhanced their learning experiences. Leadership is learned through studying the key concepts and skills used by effective leaders, observing good models and by one’s own trial and error in the workplace (Fry, Bottoms & O’Neill, 2005).

Reflection

School leaders navigate ever-challenging currents of change in society and education. Leadership preparation programs encourage development of candidates’ reflective skills as a way to understand and manage challenges encountered as they engage in leadership activities. This ability to reflect is not necessarily an innate trait, but requires development over time as candidates actively employ the practice of reflection (Roberts, 2008). Moreover, Quinton and Smallbone (2010) suggested that embedding the practice of encouraging students to engage in reflection is critical in designing online courses. The authors posited that reflection is critical to support student learning from their course experiences.

Methodology

The focus of this study was to gather online master’s educational leadership candidates’ perceptions of the value of their interactions with external leaders in the field of educational leadership. As a result, the research question that guided the study was: What are the perceptions of candidates on how interacting with external leaders’ impact their practicum experiences?

The participants for this study were 163 online graduates, 102 females and 61 males, enrolled in the Masters of Educational Administration or Educational Technology Leadership Programs at a regional institution in Southeast Texas. Of the 163 participants, 140 or 86% were Caucasian, 16 or 10% were African-American, seven or 4% were two or more races (See Table 1). The submission of the Field Supervisor Reflection Assignment was a course requirement; therefore, participation was required. The demographics of the student participants were similar to the overall online student population. Data for the population were obtained from information released by the university’s distance education office.
During the program, candidates in the second course, EDLD 5301, the seventh course, EDLD 5397, and in the final course, EDLD 5398 were required to meet with a field supervisor in small groups synchronously via Adobe Connect. After each meeting, candidates were required to write a reflective summary of their experience and learning during the field supervisor web conference. For this study, candidates’ field supervisor reflective summaries for EDLD 5301 and EDLD 5397 were identified in the University database. Only candidate reflections submitted in both EDLD 5301 and EDLD 5397 were included in the study. Individual candidates’ submitted field supervisor reflective summaries were matched and analyzed. The matched summaries were read and coded for emerging themes. Student comments were then grouped according to the identified themes.

The data were analyzed using basic interpretive qualitative approach. Merriam (2002) described interpretative qualitative research as the construction of meaning. It can be used when an instructor is interested in how students make meaning of a situation or phenomenon. Analysis is of patterns or common themes and the outcome is a rich descriptive account that makes reference to the literature that helped frame the study (Merriam, 2002).

**Findings/Results**

The researchers reviewed the candidates’ responses and coded the identified themes. The identified themes were collaboration, practicum, leadership, mentor/experts in the field, and reflection. The researchers then identified the number of student comments that related to the identified themes. There was a change in the candidates’ perception from the second course (EDLD 5301) to seventh course (EDLD 5397). In the candidates’ second course, they were focused on the practicum; however, by the midpoint in the program, candidates were more focused on the reflective and collaborative process. See Table 2 for complete results. The following are selected student comments from the identified themes:

**Collaboration**
- What I learned during this conference is that others share some of the same concerns and experiences through this program. I also found that everyone agreed that with time and guidance, the activities in the practicum will be very beneficial towards our goal of becoming a leader in education.
- Overall, I was reassured by this conference that all of my fellow interns were having struggles and challenges equal to my own. Each of us had different struggles which we as professionals and future leaders will have to work on and overcome. Each of us also has discovered unique talents, some of which we were not aware of before the practicum. In conclusion, this web conference was a great way to see where my peers were on their journey to administration and to share a bit of my own journey.

**Practicum**
- I am beginning to see much of the reasoning behind the activities in the practicum plan. It seems like a lot of extra work when in fact, it is a way to familiarize everyone with the day-to-day operations of being an administrator. It has been a ton of work thus far, but I can say I am learning a great deal.
- Before the meeting came to an end, our field supervisor held a question and answer session to make sure we weren't left feeling confused. This was very beneficial as several of my peers had good questions and concerns, not only about the videos, but the practicum plan as well. I am now very eager to get a start on these videos to make sure the expectations are fresh in my mind.

**Leadership**
- I have learned that the way you process information as an administrator is different. You are not only thinking about yourself, but the organization and what is legally correct. As a teacher, I knew how to think like a teacher. As an administrator, you have to develop a new way of thinking and processing information because your decisions can have a long term effect.
• Things that have surprised me about leadership have been observing everything that goes on behind the scenes to run a school in a single day, with teachers, staff, parents, and students. Leaders have to put on their best face and address problems in the best way possible, regardless of what type of day they are having.

Mentor/ Experts in the Field
• Dr. F provided several resources to help with the action research and practicum plans as we go through each part during our time in the program. She offered up advice on how to get through the workload, how to manage time, and how to get assignments completed. She also provided insight about how best to go through the program - shadowing our mentors without saying a word, just taking notes.
• Dr. F encouraged us to look for ways to strengthen areas in which we feel we are weak. He also admonished us to find balance in life. It is important to be able to continue administrative duties without sacrificing family, self, emotional well-being, etc.

Reflection
• Taking these online courses there are times that you feel like you are on an island going through struggles on your own, but after the interactive conference I get renewed energy and a level of confidence to focus and work, work, work! More than anything, this conference moved my will. I appreciate Dr. A’s relaxed nature and comments towards all the students. Her questioning and points made me self-reflect and apply it to my topic and my thinking.
• This web conference was good, because it gave me a chance to talk to a faculty member about my topics, my struggles with it as well as positives. But the most important part to me was the growth we talk about as far as individual on what our strengths and weaknesses are that we have discovered in this process. I think reflection is good for the soul and the individual, it allows us to take a deep look at ourselves in the mirror and see what we have, what we are missing and what we need.

Conclusions
According to Gary, Fry, Bottoms and O’Neill (2007), effective mentoring can facilitate the shaping of interns’ beliefs about school improvement, teaching and learning, building school/family/community relationships and ethical leadership. Most of the participants in the study indicated they found participating in the field supervisor web conferences supportive to their progress both as emerging leaders and their success in the program. Dabbagh and Bannan-Ritlant (2005) noted that collaborative interaction occurs when learners are given opportunities to discuss issues that are relative to their real-world learning issues. According to the participants the interaction among colleagues was a positive influence on their success and a morale booster when discussing their struggles.

Daresch (2001) identified the benefits of a mentor for aspiring leaders. These benefits include increased self-assurance about their leadership competency, the ability for the mentor to show how to apply theory into practice, the development of a collegial support system, and a sense of community. In this study, the candidates reported that they had opportunities to learn more about their professional lives and gain more insight into how to use their practicum experiences to become better leaders. They felt that the field supervisor sharing personal experiences as school leaders helped them as much as any other kind of learning experience.

Finally, Brookfield (2006) affirmed that critical reflection is extremely important in the online classroom. In this study, candidates discussed how they used the reflective process to improve their practicum experiences. As Mezirow (1977) indicated, as a learner becomes more critically reflective, transformation occurs. The candidates in the study revealed through their reflections the transformation taking place in their learning.

Implications
The implications for this study focus on the importance of effective, on-going mentoring for aspiring PK-12 leaders. Universities must engage in dialog with school districts and mentors to ensure that there is a connection between theory and high-quality authentic experiences for future principals,
organized around school improvement. Internships must be managed by veteran practitioners who have the knowledge and skills and the dedication to ensure educator preparation interns have the modeling and support they need to develop their leadership competencies.

References

19 Education, § 228-RULE §228.35 (Texas Register 2014).

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Table 1
Characteristics of Participants

<table>
<thead>
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<th>Demographic</th>
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Table 2
Frequency and Percentage of Themes Identified in Student Reflections

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<th>EDLD 5397</th>
<th>Percent</th>
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<td>18.27%</td>
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<td>31.73%</td>
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<td>Reflection</td>
<td>26</td>
<td>25.00%</td>
<td>79</td>
<td>75.96%</td>
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</tbody>
</table>
A King-Sized Problem!

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Introduction

In November 1882, the comic opera *Iolanthe* (Gilbert, 1986), with music by Gilbert and Sullivan, opened in London. The story involved a group of immortal fairies. They had a law that said that any fairy that married a mortal would die. Iolanthe broke that law, but so did all the other fairies. The Fairy Queen did not know what to do, as she did not want to kill the entire band of fairies. The Lord Chancellor came to the rescue. He discovered that the emergency was actually very simple to resolve. All one had to do was change one word in the law. The law simply had to be changed to read that any fairy that doesn’t marry a mortal would die. Problem solved! Just add one simple word. *Iolanthe* satirizes aspects of the British government and the law. However, the story is timeless and can be used today to satirize many other societies’ laws. In 1980, Associate Justice Rehnquist compared the majority opinion to the hubris of the Lord Chancellor in *Richmond Newspapers, Inc. v. Virginia* (Richmond, 1980). Today, some would say we have another example. The Patient Protection and Affordable Care Act implies that subsidies just go to people who purchase insurance through an exchange program established by the state. Following this section of Obamacare, as written would create king-sized problems. The Internal Revenue Service solved this problem by simply interpreting the section to mean exchanges established by the state or federal government and receive subsidies (IRS, 2012). Again, problem solved. Just add three simple words. This paper will consider the arguments for and against this type of word change as well as consider the king-sized problems that can happen if the law is either not changed or changed through simple IRS interpretation.

Background

On November 7, 2014, the U.S. Supreme Court granted certiorari in the case *King v. Burwell* (King, 2015). The case challenged the IRS’s interpretation of Obamacare (the Affordable Care Act), which concluded that people who bought health insurance through Healthcare.gov, the federal exchange, could get the same federal subsidies as people who bought policies through state exchanges. The U.S. Court of Appeals for the Fourth Circuit (King, 2014), on July 22, 2014, agreed with the IRS that that the subsidies could extend to exchanges established by the federal government. The court found that the statute in question was ambiguous and subject to at least two different interpretations. Therefore, the court deferred to the IRS since the IRS’s interpretation was considered reasonable in that it advanced the broad policy goals of the act. Also on July 22, 2014, the U.S. Court of Appeals for the District of Columbia Circuit (Halbig, 2014) came to the opposite conclusion in the case of *Halbig v. Burwell*. In that case the court decided, through a plain reading of the text in Obamacare, that the IRS did not have the statutory power to grant subsidies to purchases in insurance markets established by the federal government. The Supreme Court granted certiorari since two different circuits of the Court of Appeals came to opposite conclusions. Two other cases, *Pruitt v. Burwell* and *Indiana v. IRS*, were in the District Court stages. Those cases asked the same question and were put on hold pending the outcome in the *King* case. In accepting the *King* case, the Supreme Court characterized the issue in the case as one of statutory interpretation with the sole question being whether subsidies granted to people purchasing healthcare through state exchanges...
can extend to those purchasing the policies through federal exchanges. The Supreme Court heard oral arguments in the case March 4, 2015, and the case should be decided sometime later in June 2015.

**Relevant Sections and Cases**

Section 1311 of Obamacare describes the process for a state to create a health care exchange. Section 1321 requires the federal government to establish an exchange if the state does not establish one. Section 1401 provides tax credits for individuals who purchase insurance through “exchanges established by the State under Section 1311.” It does not say anything about exchanges created under 1321 being eligible for the subsidies (PPACA, 2010). In May 2012, the IRS, the agency administering Obamacare, issued regulations permitting tax credits, subsidies, to be awarded to people purchasing health insurance through federally created exchanges (IRS, 2012).

In *Chevron U.S.A., Inc. v. Natural Resources Defense Council, Inc.* (Chevron, 1984), the U.S. Supreme Court established a test for determining whether to grant deference to a government agency’s interpretation of a statute that it administers. Justice John Paul Stevens, writing for the majority, created a two-part test for courts to use when deciding whether agency’s interpretation should be upheld. First, the reviewing court must decide whether Congress has directly spoken on the precise matter at issue. If the intent of Congress is clear, both the reviewing court and the agency must follow Congress’ clear intent. Second, if the reviewing court determines that Congress did not address the precise issue in question or that Congress was ambiguous; the court cannot simply impose its own construction on the statute. Rather, the issue for the court becomes whether the agency’s answer is based on a permissible construction of the statute. Administrative agencies are empowered to fill in gaps left by Congress in statutes. In *Chevron*, the U.S. Supreme Court agreed with the Court of Appeals that Congress did not have any intent on the matter before the court. However, the Supreme Court concluded the appeals court could not decide whether the program choice in question was “inappropriate” in the court’s view to improve air quality. There were many policy choices for the agency to choose from. All appeals courts need to defer in the future to the agency’s judgment on its choice of statute interpretation as long as the agency’s action is a reasonable policy choice for the agency to make.

**Plaintiff’s Arguments For Not Allowing Subsidies to Extend**

The plaintiff’s argued that the language in the relevant sections is clear in its semantics. Congress provided subsidies only for policies purchased on state exchanges. This is also precisely what Congress intended. There was no mistake on Congress’ part. First, the plaintiff in the *King* case argued that a plain reading of the statute indicates that state exchanges and federal exchanges are two different things. Clearly, the subsidy only applies to state exchanges. Jonathan Adler, a Case Western University law professor, testified before a House subcommittee on July 31, 2013, that there was a significant difference between federal and state exchanges and that purchases from federal exchanges do not qualify for subsidies (Sparks, 2014). While arguments can always be made through an overly creative use of alternative definitions to try to change the meaning of a statute, the plain language in this statute is clear and should govern its meaning. If not, courts will become the law making as well as the law-interpreting branch of government. People will never know the exact interpretation simply by reading the law. This inevitably will lead to chaos. Second, the IRS’s interpretation of the law is arbitrary, not reasonable, and not permissible. There is no Congressional authority for the IRS to extend the subsidies to policies bought from federal exchanges. Congress is clear in its language and intent. The phrase ‘Exchange established by a State’ under Section 1311 is clear. It does not include exchanges established by the federal government. The states and the federal government are two different things. There are no policy choices for the IRS to make, as there are no gaps to fill. But the government will argue that Obamacare could fail if the Court does not act. Even if the law is unworkable as written, it is Congress’ job to fix the law. Neither the IRS nor the courts should have the authority to rewrite the law.

There is no reason to probe into Congressional intent when the relevant sections were debated or when the statute in general was passed. First, Congress is made up of many individuals. It is simply not possible to know why each person voted the way they did. Legislating often involves compromises. The individual intent of some of the members of Congress should not govern. Second, when deciding whether a statute is clear or what a section means, the language in a section governs. Section headings cannot be used to
contradict the language that is used within the sections content. Headings do not control the sections meaning. Finally, the Court needs to exercise judicial restraint. If one uses judicial restraint, “clear statutory text should not be disregarded lightly” (Halbig, 2014). Legislative power is given to Congress alone under the Constitution. Judge Thomas Griffith, from the D.C. Circuit Court of Appeals, replied that a literal interpretation of the statute did not render other provisions of the Act unworkable or so unreasonable as to justify disregarding plain meaning (Halbig, 2014). The D.C. Court also saw no evidence contrary to the actual subsidy section of the Act. The drafters actually may have thought carefully about this section. They may have thought the states would simply go along if provided the carrot of subsidies to their citizens if state exchanges were established.

The case is not just about the potential survival of Obamacare. It is also about separation of powers. When Congress passes a law, an administrative agency, aided by the courts, cannot amend the law. Congress makes the law. Administrative agencies should just be carrying out the law or at best, filling in gaps in the law. They are part of the executive branch. They are not empowered to write or rewrite laws. Congress is the lawmaking branch under the Constitution. In a democracy, the people are the ultimate power. When the Constitution was established, the people delegated lawmaking power to Congress. Therefore, the people control Congress through elections. Congress establishes administrative agencies to assist in making regulations within an agencies area of expertise and within the parameters set forth by Congress when the agency was created. But this is actually a re-delegation of the law-making power the people gave Congress. If agencies can make whatever regulations they please, then the people loose the ability to control those who make the laws. No one votes for members of administrative agencies. This could imperil the very structure of our democracy. If one president, through the IRS can change the meaning of a statute passed by Congress, the next President can do the same thing to the statute through the IRS. The *Chevron* case was decided to restrain a court and agency from assuming and taking over the role of Congress. When Congress has clearly spoken, the agencies and the courts cannot combine to change the will of Congress.

Finally, the *King* case also involves principles of federalism. Federalism concerns the balance of sovereign power between the states and the federal government. In 2012 the U.S. Supreme Court decided *National Federation of Independent Businesses v. Sebelius* (National, 2012). In that case the Court upheld Obamacare under the taxing power of Congress, but not under the Commerce Clause. Also the Court concluded Congress exceeded its Spending Clause authority with its scheme to expand Medicare. The Court concluded Congress was unconstitutionally coercing the states to change their Medicaid programs or lose all of their federal funding for the program. Only the additional funding for Medicaid under the Affordable Care Act could be withheld. In this case the subsidy needs to be limited to state created exchanges. The government will argue that, if giving subsidies just to policies purchased from state exchanges is unconstitutionally coercive, the obvious remedy is to apply the subsidy to policies purchased on either state or federal exchanges. The states in this case will not argue that the policy is coercive because this is not the remedy the states desire. Also, the Court would be giving a victory to the government who created the unconstitutional coercion in the first place. The states will have a different argument is the Court believes the subsidy was designed to force the states to create exchanges. In the Affordable Care Act, the mandate that larger employees must offer insurance to their workers only applies in states that are getting subsidies. If the state can turn down subsidies by refusing to set up a state exchange, then they can also block the mandate. If the Court rules that states without exchanges get subsidies, then the states would lose this power. The only outcome that truly empowers the states and protects federalism is for the Court to decide against expanding the subsidies to federal exchanges (Ponnuru, 2015).

**Government’s Arguments For Allowing Subsidies to Extend**

The government argues that Congress, as stated in the law, clearly intends for federal exchanges to be treated the same as the state exchanges. First, the word *establish* is different from the word *operate*. If a state does not create and operate its own exchange, then the residents of the state can use the federal exchange. In that case the state established that its residents use the federal exchange. So both state operated and federally operated exchanges are established by the state and eligible for subsidies.
(Salisbury, 2015). Second, the Affordable Care Act must be read in context. One cannot focus on one section or a few words. When read as a whole, it is clear that tax subsidies are supposed to be available nationwide, not in just a handful of states that set up state exchanges. More than fifty provisions of the law would not work if federal exchanges did not grant premium tax credits (Parnell, 2015). Third, the section questioned by petitioners is, at most, simply a typo. Through the rest of the law, federal and state exchanges are treated the same. Thus the phrase “exchange established by the state” is simply a typo in the over 900-page health care act. It is just five words out of over 400,000 words. It is not a constitutional dispute and should not be taking up court time. The IRS should simply be able to correct an obvious typo.

According to Chevron analysis, if the law is ambiguous, and the IRS gave a reasonable interpretation to the law when it extended subsidies to federal exchanges, then the IRS’s interpretation has to be respected. First, when interpreting a statute, the government argues that the courts need to evaluate not only the language contained in the statute, but also analyze beyond the text to the policy objectives that the law was meant to achieve. The statute contains titles such as, “Quality Affordable Care for All Americans”, with subtitles stating, “Affordable Coverage Choices for All Americans.” Furthermore, the expressed language in the act aims to make health care affordable for all, regardless of the state in which they live. The government also defended their case using other provisions of Obamacare, legislative history, and the broad purposes of the Act. Members of Congress who drafted Obamacare said the legislative intent clearly was not to exclude people who enrolled through the federal exchange. Representative Levin, the former Chairman of the Ways and Means Committee who helped write the act, wrote in a recent Washington Post op-ed, “Providing financial help to low and moderate income Americans was the measure’s key method of making insurance premiums affordable. Without it, millions would remain uninsured, and for them, the law would be nothing more than an empty, unfulfilled promise” (Plus, 2014).

To the government, this is not a case about separation of powers. This is a case brought forward because Republicans desire to dismantle Obamacare. President Obama, currently in office, is not likely to allow Obamacare to be repealed. However, there are individuals who simply do not like a strong federal government and do not see a place for the government in areas such as health care. In fact, the expansion of federal agencies and their ability to regulate is often contested. Since President Franklin Roosevelt’s court-packing plan and Associate Justice Owen Roberts’ change in position in West Coast Hotel Co. v. Parish, administrative agencies and a more expansive role for the government in regulating society has been upheld by courts (West, 1937). Furthermore, the American people voted for President Obama and a Democratic Congress in 2008. In 2008, presidential hopeful Barack Obama was an advocate for changing health care in the country. In addition, Americans reinstated President Obama into office in 2012, while he continued campaigning against changing his new healthcare law. Citizens in a democracy maintain control over administrative agencies through the election of the president, who is the chief executive and controls the federal agencies. There are some problems that are too big for individual states to resolve. The majority who voted in the 2008 and 2012 presidential elections understood change was needed, and accepted agencies to carry out this change. There is no modern separation of powers problem when administrative agencies act, because citizens have a choice in electing a president if they do not like the current president’s use of administrative agencies.

Principles of federalism are at stake if the Court determines that the subsidy cannot extend to exchanges created by the federal government. If subsidies are not given to people who live in a state that did not create a state exchange, it could be said the federal government is being too coercive and forcing states to create exchanges. Otherwise, there would be no assistance for the citizens in the state when they tried to purchase healthcare. This may lead to people not purchasing insurance and simply pay the penalty instead. In this occurrence, there will be a smaller pool of people buying insurance. This will cause premiums to rise. As a result, a “death spiral” will develop, in which more individuals will not be able to afford the premiums. Eventually, insurance in states using federal exchanges will collapse. The state will be forced to provide a state exchange. The penalty for not creating an exchange will be too coercive as it will be the total loss of insurance in the state. The only way to interpret the sections, and keep the sections in line with constitutional principles, is to apply the subsidy to both state and federally created exchanges.
This approach avoids interpreting the statute such that it becomes unconstitutional because of coercion (Ponnuru, 2015). Therefore, courts need to interpret statutes in such that they can remain constitutional.

**Potential Implications From The Decision**

If the Court rules in favor of the plaintiffs and does not extend the subsidy to federal exchanges, the Court risks developing multiple king-sized problems. Similarly, as the Fairy Queen faced the extinction of her entire band of fairies, the entire health care system risks a collapse without adjusting the language to prevent a massive crisis. Sixteen states, as well as Washington, D.C., have established exchanges. The remaining 34 states have not. Obamacare will be in trouble if subsidies are not provided to people who purchase health care through federal exchanges. The healthy subsidize the sick and the young subsidize the old. Therefore, the more individuals who obtain health insurance the more individuals help to subsidize the cost. Hospitals shift the cost of the uninsured to private or company-paid plans. That is how insurance works and that is what keeps the premiums down for all. If the Court rules for the plaintiff in King, the Urban Institute’s computer model suggests that there will be 8.2 million more uninsured and 35 percent higher premiums for all (Pear, 2015). When people leave the insurance pool because they cannot afford the premiums, the system could collapse. That could be true even in states that run their own exchanges, as premiums will rise to unaffordable levels. The simplest thing for Congress to do is rewrite that section of the law to make it include any exchanges, federal or state, in the ability to get subsidies. The issue of Congress rewriting the section of the federal exchange is that Republicans now control Congress. In a post-election forum, the new Majority leader Mitch McConnell said that if the decision went as he hoped, “I would assume that you could have a mulligan here, a major do-over of the whole thing.” The crisis created by millions losing affordable coverage could give the Republicans leverage to change the law more in line with the party’s principles. “But to make the most of that opportunity, Republicans need to translate those principles into a workable plan, and they are not there yet.” (Graham, 2014). Concern over whether Congress could come together to amend Obamacare could even affect how some justices’ vote on the case. A justice could simply conclude the potential cost of having Obamacare fail is too disruptive to the nation. Practical arguments can be persuasive. Some justices on the Supreme Court may need to see Republicans planning for fixes to feel comfortable going with a plain meaning of the statute interpretation. These Republicans will demand substantial changes to Obamacare in exchange for fixes. Currently, the President has low approval ratings, and he is in the closing period of his presidency. If threatening the states up to this point with a potential lack of subsidies was not enough to force them to create exchanges when the law was being implemented, it is unlikely further pressure from a president in a weakened position will do so now. Many of the states declined to create their own exchanges because of political and philosophical aversion to Obamacare. That is unlikely to change and subsidies are lost if the law fails.

If the court rules in favor of the government, potential concerns still arise. After Obamacare was instated, the government was trying to force the states to set up exchanges. Jonathan Gruber, the former advisor to the Obama administration on the healthcare law, will play a big role in the case. Worse, comments he made about the subsidies being restricted to state-run exchanges will now come back to hurt the government. Gruber said in a 2012 video, “In the law, it says if the states don’t provide [exchanges], the federal backstop will. The federal government has been sort of slow in putting out its backstop, I think partly because they want to sort of squeeze the states to do it. I think what’s important to remember politically about this, is if you’re a state and you don’t set up an exchange, that means your citizens don’t get their tax credits.” (Dobson, 2014) Gruber has tried to take these statements back, but his initial understanding of the law is now available to all citizens to review. In fact, his name is mentioned six times during the 129-page opening brief filed by the plaintiff. If the court decides for the government, the Court could be seen as breaking down federalism and trumping state resistance by rewarding the federal government by giving the federal government a result it could not achieve through unconstitutional coercion. The federal government should not force the majority of the states to do its bidding; The Court could then be seen as doing the federal government’s dirty work. Courts do not like to help bullies.

Now the question remains, how will the Court decide this case? Justices Ginsburg, Breyer, Sotomayor, and Kagan will most likely decide to extend the subsidy to people who purchased insurance in the
federally created exchanges. Justices Scalia, Thomas, and Alito will probably decide that the subsidies can only extend to people who live in states that established state exchanges. However, it is suggested that Chief Justice Roberts and Justice Kennedy may be the justices that could vote either way (Parnell, 2015). This being said, the current author unfortunately does not have a crystal ball. However, the argument that statutes must be interpreted using the plain language contained in the statute is powerful. It is also the most consistent approach, if a justice subscribes to judicial restraint. When Congress speaks, the Court should give deference to Congress. It is the branch of government empowered to make laws. The only way the courts should intervene would be if the law was clearly unconstitutional. Furthermore, courts should not rewrite or create laws simply because they believe they can do better. Therefore, this is really just a case of statutory interpretation. If Congress does not like the way the Court interprets the Obamacare law, Congress can simply amend the law to say subsidies are to be given to people who purchase under the state or federal exchanges. Unfortunately, things are not that simple. The two political parties, Republicans and Democrats, are fighting hard in both branches of Congress. This being said, it is possible that nothing will happen if the subsidies do not extend to federal exchanges. Despite the potential king-sized problems, neither political party is willing to compromise. Republicans may require more changes to Obamacare in order to keep this healthcare program. However, Democrats may not accept any additional changes to Obamacare than a simple word change. Also the President could signal that he will veto anything more extensive. If the Court decides that the subsidies should not extend to federal exchanges, then the court may want to postpone implementing its decision for at least for six months to give Congress time to act. The Court could even delay the implementation until after the 2016 election to give Congress even more time to reach a compromise and allow the people to have more say in healthcare through the presidential election. This could worry some justices though as this type of decision could hijack the 2016 election and turn the whole debate toward healthcare. It is also unlikely the Court would delay a decision for so long. What else could Chief Justice Roberts do? Chief Justice Roberts could try a creative maneuver if he wishes to save Obamacare or fears the Court will be blamed for a complete collapse of health care in the country should the Courts decision results in Congress being too gridlocked to make changes. The Chief Justice could state that laws must be interpreted plainly, as written. This would interpret the law to mean an exchange created by the federal government is not a state created exchange. This interpretation keeps the law on the firmest ground. If the Chief Justice deferred to the government’s interpretation and said the law was ambiguous; the next administration could change the interpretation again. Therefore, the law would not really be a law. But Chief Justice Roberts may then decide that this plain interpretation will deliver an unconstitutional result. Denying the subsidies to those who purchased healthcare from federal exchanges will result in unconstitutional coercion on the part of the federal government toward the state. States would be forced to create state exchanges or face the potential collapse of health insurance in their state. To avoid this problem, the Court could allow the subsidy to extend to people who purchased health insurance from federal exchanges, not because of the way the law was written, but to avoid unconstitutional federal coercion. This result would save traditional constitutional interpretation, reinforce that the Court practices restraintest principles when interpreting statutes, and protect the public from the potential total collapse of health insurance. This writer is not advocating this position, just seeing this option as a possibility for Chief Justice Roberts. Interpreting the law as unconstitutional would be similar to what the Chief Justice did in Hobby Lobby when he found mandates unconstitutional under the Commerce Clause, but constitutional under the Taxing Power.

Conclusion

The Obama Administration is assuming that the U.S. Supreme Court will act like the Lord Chancellor in Iolanthe and simply rewrite the statute. Perhaps the administration’s interpretation of the statute is correct, and the law will be rewritten to include “or federal exchanges” in the section on subsidies. However, if the law ‘means what is says and says what it means’, the Court may not bail the Administration out of this king-sized problem. To do so could result in the charge that the Court is simply a politically activist court that assumes Congresses role by making policy from the bench. The justices are no longer jurists. They become politicians in robes. This perception could lessen the authority and prestige of the Court in the eyes of many. The Court cannot enforce its own opinions. It relies on its
authority and prestige to convince the people to follow its decisions. If this is lost, the Court could have king-sized problems in achieving compliance with its decisions in many other opinions. However, the Obama Administration still may not be concerned. The Administration may believe that Congress will be the Lord Chancellor and change the law. This could happen out of necessity. However, many Republicans in Congress believe and are tired of the President acting like a King and ruling by decrees that bypass Congress. There could be a feeling that the executive branch ‘needs its wings clipped’ despite the king-sized problem this unwillingness to act could cause. The President probably should have taken the high ground and warned people of the possible loss of subsidies and the implications of the loss. He probably should have lead and gotten members of Congress together to plan for a bipartisan solution to the loss of subsidies to purchasers in federal exchanges. This would involve listening to Republican Congressmen and compromising. This activity could save the Affordable Care Act, lessen future challenges, and ensure his legacy. It would allow Republicans to make some changes and have some stake in the success of the law. However, it is always quicker and easier to simply have federal administrative agencies, like the IRS, be a president’s personal Lord Chancellor. All worked out well for the fairies in *Iolanthe*. It is not too late for bipartisan compromise and revisions in Congress. It is not too late for the President to sign those changes into law. There should be no Lord Chancellor-IRS or Court fix. Things would be better if “the House of Peers withholds/ Its legislative hand/ And noble statesmen do not itch/ To interfere with matters which/ They do not understand” (Orient, 2015).

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Reflective Practices of Pre-service Social Science Teachers: 
Voices from the Delta

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Abstract
Teacher quality is connected to strong pre-service education courses that diversify pedagogical strategies. Reflective practice is a teaching strategy that may serve as a means for social science teachers, particularly in low resource, hard to reach, rural areas to enhance their professional skills. This research contributes to understanding the role reflective practice plays in developing social science teachers. The intention is to create reflective practitioners who adapt their teaching strategies to meet the needs of their students and contextual environments. At Delta State University in Mississippi, reflective practice is embedded throughout the teacher education program. An assignment, entitled the focus observation, from a required junior level education course, has pre-service teachers reflect on how student characteristics influence teaching strategies and classroom management techniques. This research looks at the level of reflection in the focus observation for social science secondary teacher candidates over five semesters. The main research questions are how do reflective practices promote social science teacher candidate development and how are teacher candidates facing the challenges of connecting student diversity to teaching strategies and classroom management techniques? This research contributes to the field of constructive social science teaching strategies and understanding the role reflective practice plays in developing teachers.

Keywords: teacher education; data collection systems, teacher quality, reflective practice

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Introduction
Reflective practice in teacher education serves to increase teacher quality, especially in low-income rural areas. It is essential for pre-service teachers to reflect on practice, particularly in relation to student diversity, teaching strategies, and classroom management. This research looks at reflective practice in social science pre-service secondary teacher education at Delta State University in the Delta region of Mississippi. Reflective practice is of particular importance in the Mississippi Delta because of the history of racial inequality and its low socio-economic status. To be effective, teachers need to reflect on who they are and how they are adjusting their instruction to meet the needs of students from different backgrounds. This research addresses two questions:
1. How do reflective practices promote social science teacher candidate development?
2. How are teacher candidates facing the challenges of connecting student diversity to teaching strategies and classroom management techniques?
There is a need to improve the quality of teachers in Mississippi. Education Week’s 19th annual
The United States Commission on Civil Rights report on the Mississippi Delta concluded, “High rates of poverty coupled with a legacy of unequal educational opportunities for people of color, who make up more than one-third of the population, have left Mississippi’s children at a substantial disadvantage compared with the rest of the nation” (¶ 2). To further compound the issue of poverty, this research takes place in one of the poorest areas of Mississippi in the heart of the Delta region, which has a staggering 26.4% of people living below the poverty level (United States Census Bureau, 2014). Fisher, Golembiewski, Orlandsy, and Willis (2010) reported that Mississippi’s high school graduation rate falls slightly below the national rate at 61 percent, with school districts in the Mississippi Delta region exhibiting higher percentages of dropouts.

**Review of the Literature**

The conceptual frame draws from the professionalization paradigm and reflective practices. The professionalization paradigm is the larger lens to view the teacher development process (Darling-Hammond, 2010). An integrative theoretical framework, that includes reflective practice as a professional development improvement strategy, stipulates a practitioner should look “both inwardly at his or her own practice and outwardly at the social conditions in which this practice is situated” (Liston and Zeichner, 1996, p. 208). This theoretical frame draws on the beliefs that student-centered activities and decision-making power strengthen understanding. According to Liston and Zeichner (1996), reflective practice holds the teacher as an empowered figure capable of making complex decisions. The objective is to foster teachers to who adapt their teaching to meet the characteristics of the students. This literature review focuses on the role reflective practice plays in teacher development.

Reflective practice assumes the teacher as an empowered figure capable of making decision. According to Liston and Zeichner (1996), reflection means that teachers have a commitment to take responsibility for their own professional development. Similarly, the professionalization paradigm maintains that teachers are capable of making complex decisions and taking ownership for their own development of practice. This research adds to the frame that pre-service teacher voices add value to teacher education programs.

A larger Multiculturalism framework that includes reflective practice is seen as a means of understanding how teacher identity influences practice. Connecting teacher reflections and their cultural identity to social conditions may result in changes in the classroom that address such conditions. Teachers who engage in reflective activities surrounding their identity are more likely to see students on familiar terms and less distant.

In addition, Liston and Zeichner (1996) argue that awareness of cultural identities leads to a change in instructional practices. Strategies recommended in this practice suggest diversifying curriculum resources to include multiple perspectives, especially those of the community a teacher is serving. Reflective teaching connects to questioning goals and values that guide practice and questions the context of teaching and their individual assumptions. This professionalization paradigm-multicultural emphasis-reflective practice is seen as a means of understanding the role of teacher identities (Liston and Zeichner, 1996).

Similarly, Donald Schon (1983) refers to reflection on action as “thinking on our feet.” It involves seeing our experiences, connecting with our feelings, and attending to our theories. It is about building new understandings to inform our actions in the situation. The act of reflecting-on-action enables us to spend time exploring why we acted as we did and what was happening in a group. In implementation, we develop sets of questions and ideas about our activities and practice. Schon, like Dewey (1933), saw this as central to reflective thought. Schon’s (1983) work on reflective practice has influenced teacher education programs to adopt his core notions related to organizing experiences and teaching content.

Effective reflective practice may be developed and enhanced through teacher preparation programs. Richert (1990) studies the conditions that influence the reflective abilities of teachers and the relationship between teacher reflective practice and the structure of teacher education programs. Key elements, such as providing structured opportunities to reflect, time, and discussion with colleagues are helpful in
developing reflective thinking. Pedro (2005) examines how pre-service teachers construct meaning in reflective practice, and how that informs their professional practice. The study found pre-service teachers have a general understanding of reflection and can learn to reflect through various opportunities in their teacher education programs. Furthermore, teaching the practice of reflection encourages inquiry and makes learning meaningful. Critical evaluation of one’s own practice and seeing that work from multiple perspectives must be considered and modeled in teacher education programs (Loughran, 2002).

Research Design and Analysis

The research takes place at Delta State University (DSU) in Cleveland, Mississippi. Delta State University was selected as the focal point because it is in the heart of the Delta region, and it is where one of the researchers lives and works. Delta State University is one of eight publicly financed universities in Mississippi, a leading institution of higher education and a leading supplier of teachers in secondary education in the Delta. Social science education majors are the focus of this study; therefore, other subject areas were specifically excluded from this study. The rationale for purposefully selecting social science majors is that the researchers contend social science majors are more likely to emphasize and reflect on social justice issues. Therefore, they are more likely to be reflective on how student diversity, teaching strategies, and classroom management techniques intersect in the classroom.

Qualitative research methods were selected for this study, specifically the analysis of an essay assignment from an introductory general education course entitled “Survey of Education with Field Experiences.” This is a required course for all secondary subject area majors (social science, math, English, science, etc.). In the course, two focus observation essays are required assignments (see Appendix A: Guidelines for Focused Observations). In general, students enrolled in this course are college juniors who have completed their general education requirements. This is often the first course taken before officially applying into the teacher education program at Delta State University. There are three general education courses required for secondary education students (Survey of Education with Field Experiences, Survey of the Exceptional Child, and Classroom Management), but Survey of Education with Field Experiences is the only one that stores assignments in an online data collection system called Taskstream.

The focus observation essays (see Appendix B: Focused Observation Paper) were collected from Taskstream. This online data collection system is used by Delta State University to collect evidence on pre-service teachers. This data collection serves a dual purpose: to collect evidence for the College of Education accreditation review and as an e-portfolio for students. This database includes student assignments and their names. No demographic information (age, gender, race, etc.) on the students was available to the researchers. Although Delta State University Taskstream data dates back five years, only the most recent six semesters were selected for inclusion in this study.

The data for this study consists of 30 focus observation essays collected from social science secondary teacher majors from Fall 2012 to Spring 2015. This includes all social science students who completed this course during six semesters. Before Fall 2012, the data was aggregated with all subject areas (English, math, science, etc.), and it would be difficult to identify the social science education majors. Therefore, the data collection began in 2012 when Taskstream differentiated the students by subject major. The total population of all students who took the course in these six semesters (Fall 2012 to Spring 2015) is 161, but only 30 of those are social science majors. The focus observation assignment was analyzed through thematically and systematically organizing the reflective entries. The assignment was evaluated using a scoring rubric (see Appendix C: Focused Observation Scoring Rubric). In addition, NVivo was used to structure and display the analysis.

The data for the study consists of a reflective essay assignment entitled “Focus Observation”, which is based on student field observations. This is a reflective assignment designed by education faculty at DSU. It has been in place for at least five years. The assignment requires pre-service teachers to conduct field observations and reflect on the role student characteristics play in designing instruction and classroom management. This data provides insight on understanding the ways pre-service teachers are reflecting on their field observations. The assignment requires pre-service teachers to conduct 15 hours of
field observations in the Cleveland School District (Cleveland, Mississippi), and then write a reflective essay on those experiences. Thereafter, they observe another 15 hours in a different school district in Mississippi and write another focus observation essay. The assignment (Appendix A) has three main reflective prompts teacher candidates need to focus on: diversity, teaching strategies, and classroom management. Specifically, students are required to focus on diversity and how it influences teaching strategies and classroom management.

Findings

This section examines how students reflect on diversity and adapt teaching and classroom management strategies to meet the needs of students. Due to the history of racial inequality, reflecting on diversity is particularly significant in the Delta region of Mississippi. The research questions reflect the objectives of the focus observation assignment:

1. How do reflective practices promote social science teacher candidate development?
2. How are teacher candidates facing the challenges of connecting student diversity to teaching strategies and classroom management techniques?

The figure below illustrates a word frequency analysis of the focus observations conducted using NVivo. The word frequency cloud is composed of the most frequently used 25 words with five letters or more in the focus observation essays. Larger words illustrate more frequency in responses. *African* and *American* are in the word cloud, but *white* and/or *Caucasian* are not. In the focus observation directions (Appendix A), students are required to describe the student diversity in their field observations.

**Figure 1.** NVivo Tag Cloud of Word Frequency Query Solution

In-depth analyses of the 30 focus observations revealed two main reflective categories: a surface level and a deeper level. It is relevant to note that three of the participants made no mention of student diversity. Of the remaining 27, all of them adequately described student characteristics in the schools where they observed. Twelve of the 27 provided an example of how a student characteristic influenced teaching strategies and/or classroom management techniques. Four of those 12 dealt exclusively with characteristics related to disabilities and/or learning styles. Eight of the 30 focus observations dealt specifically with how race and/or socio-economic factors influence teaching strategies and/or classroom management. Interestingly, only one participant connected student diversity to classroom management.

On the surface level, 27 of the 30 participants described, often in detail, students background and characteristics, including: gender, race (African-American/Black, White/Caucasian), socio-economic
status, ability/disability, English Language Learners (ELLs), and religious affiliation. Absent at the surface level is the connection between student characteristics and teaching strategies.

In contrast, on a deeper level, 12 of the 30 participants had a high level of reflection where they not only noted the student’s background, but also the implications for teaching. These 12 participants provided an example of how students’ backgrounds altered the teaching process. Unfortunately, only one of the 12 participants connected student diversity to classroom management.

Of the 12 who exemplified reflective practice, four dealt with disability and/or diverse learning styles. For example, Participant 1 stated, “The teacher extended remedial help to students who needed guidance through a task and gave enrichment to those who finished their task early.” Another example is Participant 25 who wrote, “The teacher read aloud from the PowerPoint for the auditory learners.” This indicates that the teachers adjusted their strategies to accommodate different learning styles. Along similar lines, Participant 8 stated, “There was no evidence of differentiated instruction present in the classroom.” Here both participants distinguished that the teachers adapted their methods to meet the needs of the students.

In the Mississippi Delta, race and socioeconomic status are the main characteristics influencing student success, but only eight of the 30 participants dealt exclusively with racial, ethnic, or socioeconomic characteristics. One entry, Participant 23, described in detail a discriminatory and hostile environment where the school is composed of predominantly white students and “racist jokes [are made] without regards to their classmate’s feelings.” In the end Participant 23 states, “This particular student [a mixed race child] had to deal with these jokes and mockeries, and I am sure this affected the student’s learning of the material.” Nothing is mentioned about how the teacher adapted teaching strategies or classroom management to change the situation.

Similarly, socio-economic status was noted as a student feature that influenced academics. Participant 1 recognized that students from a lower socioeconomic status are inclined to be academically weaker and described how a teacher adapted strategies to deal with this challenge. Participant 1 reported that the teacher used “a three-desk arrangement where an enriched student was in each group, allowing students that were remedial or borderline medial [to] learn from the enriched student.” This demonstrates a physical arrangement adaptation to meet the needs of students based on their characteristics. Similarly, Participant 2 noted that the teacher used “selective grouping to encourage communication across the line for all students,” mixing the students based on race and socioeconomic status.

Mixed ability and racial/ethnic grouping is noted by six participants. For example, Participant 5 stated that the “teacher did not put all African-American, Hispanic, and Caucasian students in the same group according to ethnicity. The teacher mixed all students.” Participant 5 goes further, noting that the teacher uses a “range of strategies to promote positive relationships [and] cooperation …” This is an example of how the pre-service teacher reflected and illustrated how student characteristics influence teaching strategies, specifically student grouping.

Another participant noted how a teacher was able to connect social science content to student characteristics and the Delta community. Participant 13 highlights how the teacher connects the conditions during the French Revolution to the poverty in the Delta. Participant 13 stated, “This was a good strategy because as soon as he mentioned the Delta, all the students were engaged because they could make that connection [to] themselves.” Furthermore, Participant 13 indicated, “The teacher also accommodated for the different ethnicities that were in the class by using examples that they could all relate to within the classroom discussions.” Participant 13 concludes that when the teacher connects teaching strategies to student characteristics, this yields more student involvement.

Similarly, the concept of promoting classroom discussions where students feel safe to express their ideas was represented in four of the 12 papers that provided examples of diversity influencing teaching. One reflection delved into teacher identity and a lack of connection to the students they serve. Participant 21 observed that, “the classes were 99.5% Afro-American” and that this affected classroom management of a white teacher, recounting that “The difference in race in the class played a huge role in the classroom management methods that the teacher tried. The class showed no respect towards their teacher, with a couple of students flat out saying that the teacher ‘didn’t know what that hood life was about’, and ‘she
doesn’t get them.’” This reflection delved into the role of teacher identity and its connection to students’ cultural and racial identity.

Reflecting further, Participant 21 states, “As annoyed as the teacher was after hearing that, she had to face facts and come to terms with that, especially not only being from another state and having gone to school in Oxford, MS, but not knowing the struggle or how to cope with her students.” At the end, Participant 21 reflects that, “Race played a major part in the classroom management methodology for the two teachers I observed because the students were more receptive of the rules that came from like-minded people versus an outsider.” This type of reflection is needed to have open class discussions on the role race and socioeconomic status plays in the development of teaching strategies and classroom management.

Limitations

A limitation to this research study is that the findings apply exclusively to Delta State University (DSU) secondary education majors who participated in the study. This study provides rich information for DSU teacher education faculty but cannot be universally applied to pre-service social science education programs housed in other institutions. That noted, this type of study could be replicated at other teacher education institutions. In addition, Taskstream does not provide demographic information on students. It would have been interesting to understand how students’ race, gender, and/or socio-economic background influence the field observations.

Similarly, the selection of one assignment in one course limits the ramifications of this study. The intention was to analyze a reflective assignment during the beginning of the teacher program. There was no triangulation of data, and no follow-up focus group discussions with participants. Since the course is offered in their junior year, by the time this research was conducted, most of the participants had graduated. This means that interviews or discussions with participants would be at a different stage in their development as a teacher.

Implications for Practice

Beyond these limitations, this research can be useful for preparing social science teachers to be reflective practitioners. In the Mississippi Delta, race and socioeconomic status are factors that greatly influence academic success. This research offers practical implications for faculty of social science teacher candidates. The main practical and effective instructional strategies identified in the study are placing students in mixed groups, encouraging classroom discussion, and demonstrating the link between student characteristics and teaching strategies/classroom management.

The focus observation essays demonstrate that diversifying groups based on student characteristics is an excellent teaching strategy to promote a positive atmosphere. Mixed grouping enables children to learn about differences in a less threatening environment. Diversifying groups based on student characteristics, specifically different racial and socioeconomic status, fosters a greater awareness of others. Another teaching strategy that emerged from participant responses is for social science teachers to encourage class discussion. Discussions expose students to different ideas.

Finally, colleges of education faculty need to demonstrate the link between student characteristics and teaching strategies and classroom management techniques. Only one of the 30 participants illustrated a connection between student characteristics and classroom management. Creative strategies are needed to illustrate how student characteristics influence teaching strategies and classroom management.

Conclusion

In summary, this research illustrates the importance of reflective practice in teacher preparation programs. In the Mississippi Delta, socioeconomic status and race are defining characteristics influencing a child’s academics. Critical reflection on field observations is needed for pre-service teachers to understand the school communities and connect student characteristics to teaching strategies and classroom management. Further research on reflective practice in pre-service education could be conducted to understand how pre-service social science teacher voices can be incorporated into teacher preparation courses.
References


Appendix A
Guidelines for Focused Observations
These are specific elements you should observe and record during the three focused observations you will complete during three classroom visits.

Diversity
Date:                        Location:
- Gender of students
- Apparent racial/ethnic identity
- Language differences noted
- English Language Learners (ELL)
- Estimate of academic abilities levels
- Physical abilities and disabilities
- Learning styles
- Inferred Socioeconomic Status (SES)
- Grade levels
- Age range

Teaching Strategies
Date:                        Location:
- Grouping
- Inquiry
- Demonstration
- Learning activities (bell ringers, interest centers, etc.)
- Technology
- Management
- Questioning strategies
- Differentiated instruction
- Assessment (standards, objectives, etc.)
- Subject integration

Classroom Management
Date:                        Location:
- Room arrangement
- Teacher proximity
- Resources
- Tone of voice
- Eye contact
- Teacher feedback
- Time on task
- Classroom climate
- Strategies
- Routines/procedures
- Rules-written and verbal
Appendix B
Focused Observation Paper

Teacher candidates will review their notes from the focused observations on student diversity, classroom management, and teaching strategies completed this semester and write a paper detailing each of these observations. The paper should include at least one paragraph on each and a reflection. It should be typed in 12 point Times New Roman font and double-spaced. The heading should be “Focused Observation Paper.” This paper will be turned in after both sets of observations have been completed. It will also be turned in separately from your observation folder.

Reflection
Your focused observation reflection paper should include the following information:

- Understand how diversity influences pedagogical strategies
- Personal response
- INTASC Principles
- DSU Guiding Principles from the College of Education Conceptual Framework
### Focused Observation Scoring Rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>0 Unacceptable</th>
<th>1 Marginal</th>
<th>2 Acceptable</th>
<th>3 Outstanding</th>
</tr>
</thead>
<tbody>
<tr>
<td>Context</td>
<td>Contextual factors* not identified and/or poorly described</td>
<td>Most pertinent contextual factors* described, but important descriptors and/or related information may be lacking</td>
<td>Contextual factors* described in a basic manner</td>
<td>Contextual factors* clearly and fully described; in addition, description is insightful</td>
</tr>
<tr>
<td>Focused observation</td>
<td>Description fails to convey a meaningful picture of teacher/student behaviors (related to both instructional and classroom management) during observation</td>
<td>Description of teacher/student behaviors (related to both instructional and classroom management) during observation lack substance and/or clarity; gaps or omissions may be evident</td>
<td>Basic description of teacher/student behaviors (related to both instructional and classroom management) during observation</td>
<td>Detailed description of teacher/student behaviors (related to both instructional and classroom management) during observation</td>
</tr>
<tr>
<td>(instructional strategy and classroom management)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Reflection</td>
<td>Reflection fails to identify or makes very weak connection between INTASC Principles/DSU course content/COE Conceptual Framework and observation; no evidence of a personal connection to the experience</td>
<td>Reflection establishes limited links between relevant INTASC Principles/DSU course content/COE Conceptual Framework and observations; personal connection to the experience is weak</td>
<td>Reflection links relevant INTASC Principles and DSU course content/COE Conceptual Framework to observations, as well as a personal response to the experience, but primarily at a basic level</td>
<td>Reflection reveals keen insight into relevant INTASC Principles and their relationship to observation, as well as a strong connection to DSU course content and the COE Conceptual Framework; in addition, a personal response to the experience is made</td>
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</tbody>
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After 40 Years of Research: A Heretics View on Applying Socio-Behavioral Theory

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Introduction

The long-held axiom in health behavior prevention programming proposes that all interventions to change health-compromising behaviors of individuals be based on applicable and relevant theory (1,2). So engrained and normative is this notion that nearly all federal, state as well as private health agencies soliciting RFP’s and RFA’s (i.e., Requests for Proposals, Applications) for grant funds require sections in their applications describing the “conceptual basis” for the intervention (3). Such a requirement is viewed by funding sources as seminal evidence that the research team has a firm grasp of the causal chain sequence, across all levels of human behavior (i., individual, relational, community) for addressing the targeted health behavior (4). In essence, if investigators proposed to decrease a school districts unacceptably high teenage pregnancy rate, they would need to convince the granting agency that they know how these events occur (causal chain) and thus how to prevent them using their intervention. To the extent the investigators satisfy the review board on how their theoretical framework will effectively address the causal factors in teenage pregnancy they stand a better chance of securing funding (5). Because of this nearly universal requisite in funding pursuits research teams will invest significant effort in precisely configuring and subsequently describing the theory base for their specific intervention. Without a compelling theoretical rationale the likelihood of funding support becomes almost impossible.

Major Theory

A complete description of all major health behavior theory is beyond the scope and purpose of this paper. Glanz and associates (6) have however reviewed what many consider the most frequently applied theory in various health behavior intervention efforts. The Health Belief Model (7), Social Cognitive Theory (8), Theory of Planned Behavior (9) and the Trans-Theoretical Theory (10) are among the most prominent frameworks normally utilized in the discipline. Diffusion of Innovations Theory after Rogers (11) and the Socio-ecological Model (12) are also common in this research literature.

The Health Belief Model (HBM) originated in the 1950’s to help explain why citizens had such abysmal rates of getting the government-sponsored tuberculosis shots. Researchers eventually derived the following explanatory formula:

\[ \text{PHB} (f) : \text{Psus} + \text{Psev} + \text{Pc/b} + \text{CTA} \]

where:

- \( \text{PHB} \) is preventive health behavior (i.e., getting my shot).
- \( \text{Psus} \) is perceived susceptibility (i.e., how vulnerable am I to getting tb)
- \( \text{Psev} \) is perception of severity (i.e., how severe tb would be if I did contract it)
- \( \text{Pc/b} \) is perception of costs to benefits (i.e., my perception of the shots pros & cons)
- \( \text{CTA} \) is cues to action (i.e., degree to which I saw/reacted to messages urging action)

Researchers initially concluded that people tended not to get the shot if they had lower levels of Psus, Psev and their perception of costs of getting the shot was greater that their perception of its benefits (13). In later iterations of this model SE (self-efficacy) or confidence one could actually do the prescribed action was added. All of these constructs were of necessity modified according by socio-demographic variables (i.e., age, gender, race). Empirical tests of the models ability to predict and thus explain PHB
were routinely published in the literature with Psus, Psev and Pc/b being the most powerful and consistent predictors (14).

The Social Cognitive Theory (SCT) normally attributed to Bandura despite Julian Rotter’s initial formulation known as Social Learning Theory (15), proposes that behavior is learned via a continual and reciprocal interaction of one’s environmental reinforcements, cognitions and actual behavior. Self-efficacy is again central to explaining how behavior develops and for suggesting ways to enhance this construct. Performance accomplishments, vicarious learning and various modeling strategies were frequently integrated in health behavior trials to increase self-efficacy (16).

The Theory of Planned Behavior (TPB) was formulated by Fishbein and associates (17) to also explain behavior but with one’s own behavioral intention as a focal point. In this theory behavior “B” is conceptualized as being integrally related to future intention to act or behavioral intention “BI”. Behavioral intention is conceptualized as being a result of the following constructs:

\[ \text{ATT} + \text{SN} + \text{MC} + \text{Pbc} + \text{SE} + \text{PP} \]

where:

- ATT is one’s attitude toward the behavior
- SN is one’s perception of the subjective norm of primary referents toward the behavior
- MC is one’s motivation to comply with their referents views toward the behavior
- Pbc is one’s perception of their behavioral control over the behavior
- PP is one’s perception of their perceived power in doing the behavior

If as these theorists contend, one’s behavior (B) is directly related to their intention toward it (BI) and that intention is a direct result of these constructs, behavior change is possible if these constructs are favorably affected. As with the prior frameworks the TPB was subjected to extensive psychometrically rigorous tests of its predictive power and produced strong data in support of its theoretical merit (18).

The Trans-theoretical (TTT) or Stages of Change Theory (SOCT) of Prochaska (19) suggests that a person’s tendency to change or pursue an action was a function of their specific “readiness”. How “ready” one was to act (i.e., quit smoking) was in turn related to an array of characteristics for each specific stage of readiness. Stated differently the sequential stages of one’s tendency to change (pre-contemplation -> contemplation -> preparation -> action and -> maintenance), each had a specific psychological profile associated with them and using these profiles researchers design interventions which move people through the stages to eventual behavior change (i.e., maintenance). The various strategies that help people move from one stage to the next stage are widely accepted in health behavior literature as hallmarks of accepted intervention practice.

Similar to the prior 3 theories the same basic constructs guided this theory: increase self-efficacy, reinforcements, beliefs about benefits outweighing costs and supportive environments. Not surprisingly the results of research grounded upon this theory have been overwhelmingly positive and have been widely disseminated (20).

During the course of the evolution of the fields theory bases summarized above investigators in communications were constructing the theory of diffusion of innovations after Rogers (11). While not targeted toward health behavior but more on consumer purchasing or “adopting” behavior, health researchers saw a direct application. The theory states that adoption of a behavior (B) is a function of these major factors:

1. Perception of its relative advantage
2. Perception of its complexity
3. Perception of its trialability
4. Perception of its compatibility
5. Perception of its observability

To the extent the potential “adopter” views these factors favorably in the “innovation” (i.e., buying a new cell phone), they will take action and purchase or adopt the new product or service. Researchers analyzed how such adoption occurred and discovered adoption followed a classic “S curve” distribution over extended time. Yet once again the concepts of self-efficacy and weighing costs versus benefits of acting are central to this theory: People who adopt or purchase something see it as not overly complex for
them (i.e., self-efficacy) and possessing greater benefits than costs (relative advantage). Considering that
a theory from a different discipline such as Communications can also be part of health behavior change
intervention research illustrates the common conceptual logic that underlies nearly all of human health-
related action.

The socio-ecological theory (21) proposes that health and social–related actions are a function of
overlapping and cross-interacting factors in the following “spheres of influence”: 1. Individual-level; 2.
Relational-level; 3. Community-level; 4. Policy-level. The individual factors include demographics and
one’s personal traits such as personality, education, religion and medical profile. The relational factors
encompass all of one’s relationships with others related to the target behavior. The community factors
address those variables one experiences within their proximal environment and typically include
availability and accessibility of support services related health and social status. Policy factors refer to
laws and macro-level regulatory measures affecting health actions. Each level or sphere is seen as
contributing to one’s propensity to take part in health actions and researchers have used it in designing
health-enhancement programs across varied populations, settings and health problems (22). One very
novel and recently published application of socio-ecological theory designed a physical activity program
for women of color in Austin and Houston Texas (23).

Redundancy in Theory Constructs

Each of these theories posit that targeted behavior can be both explained and thus predicted from an
array of supposedly “causal” antecedents. The logic underlying health behavior change studies suggests
that if these factors are ameliorated through intervention strategies, the health-compromising behavior
will be reduced. Most scholars would concur with this reasoning and the resultant impact it exerts on how
to both design as well as measure study outcomes. Still one cannot ignore the blatant redundancy in the
major predictive variables in the most frequently employed health behavior theories.

A number of conceptual as well as descriptive redundancies exist throughout the previously described
theories. One of the most prominent is the construct of “self-efficacy” (SE). The Health Belief Model
added this variable to its most recent iteration. Social Cognitive Theory did the same after the initial
formulation of Social Learning Theory. The Theory of Planned Behavior or its earlier iteration The
Theory of Reasoned Action integrated SE within that framework. Even the Trans-Theoretical Theory
intuits that SE must be built into most of its proposed strategies in order to move people forward in their
degree of psycho-behavioral “readiness” (24). As a speaker at a national research and technology
conference stated in 2016: “that SE is required in order to help someone change or alter a behavior, is
simply common sense” (25). Ironically, the discipline of Special Education has used this construct in its
intervention arsenal for decades but simply refer to it as “self-assurance” or “self-confidence”. Empowerment as well as feminist theorists have long designated the concept of “believing in your own
ability” as a central requirement for people to achieve independence and long-term intrapersonal goals.

An even more glaring theme throughout health behavior theory literature is the descriptive maze of
different terms used by different theories to designate the same concept. The Health Belief Model posits
perceptions of susceptibility, severity and costs-to-benefits as major variables. The Social Cognitive
Theory does much the same but calls them “cognitions”. The Theory of Planned Behavior similarly uses
attitudes which is a product of perceptions and values. Once again it appears that different theories use
different words to describe the same common sense-based concepts. Can different investigators actually
discern any major conceptual difference between “readiness to change” and “behavioral intention”? If
for example one defines the notion of “social or subjective norm” in the Theory of Planned Behavior
as the individuals belief of what is considered normal or socially acceptable behavior in his or her social
life, then nearly all of the previous frameworks incorporate it as a major variable. Within the Health
Belief Model “perception of costs to benefits” must logically encompass the fact that most health acts
involve a consideration of one’s own belief about what would be “socially acceptable”. Similarly the
“cognitions” in Social Cognitive Theory would also include assessment of what the person thought their
behavioral cost-benefit balance would be in their specific social ecology. In Diffusion of Innovations
Theory the factor referred to as “compatibility” is conceptually the same as one’s estimate of social norm.
Any truthful examination of the Trans-theoretical framework must conclude that a person’s estimate of
their social norm has to be included in each of the various stages of “readiness”. Smokers who are classified as pre-contemplators, for instance, would surely dismiss the anti-smoking norm and persist in their behavior until they progress to the next stage. Even then as contemplators their cognitive search mechanisms would again assess the factor of social norms.

Theorists will argue that these variables possess subtle but cogent conceptual distinctions and are thus separate entities in each theory. This argument is more academic than practical as most researchers now blindly search for and develop interventions based upon their most meaningful theory and research experience. Of note are the investigators in Rhode Island who ground all of their work on their own trans-theoretical paradigm. The same can be said of those who adhere to and consistently employ the Theory of Planned Behavior and Social Cognitive Theory. Thankfully many research teams in universities throughout the USA and Europe are starting to design certain interventions using a blend of theories and explanatory variables (26). It is with this optimistic trend in mind that we now propose a possibly very radical departure from the historically strict and absolutist conformity to “theory-based program development” and suggest that gathering quality data on “causes” apriori to program development may be a plausible adjunct to or substitution for rigid theory.

Psychometrics and Needs Assessment Data

Decades ago the First Lady of the US touted a national movement in saving youth from drugs. The public relations spearhead phrase was the well-known “just say no” to peer pressure to try illicit and harmful substances. Academics across the country decried the phrase as simplistic and lacking in the complex theoretical foundation that underlies adolescent health actions. The intricate nature of peer pressure dynamics, they said, was clearly not accounted for and students were seemingly left with a rebuttal that would surely not help them in drug-related encounters with peers and others.

Despite a plethora of theory-based peer pressure resistance programs nationally that produced both favorable effectiveness and cost-efficiency outcome data, Just Say No type programs remained in many schools. Such interventions were criticized heavily for not being “theory-based” and thus lacking the detail and rigor to be considered scientific or empirical (27). Yet one could contend that prevention interventions can also generate positive outcomes if there is an accurate and comprehensive assessment of the causative factors and processes producing the risky behavior. We propose that program interventions need not always be formally grounded or structured upon existing explanatory socio-behavioral theory. Employing a psychometrically sound and multi-method (triangulated) needs assessment with power analysis, qualitative interviews with participants and fidelity of implementation would also isolate the causative factors to be addressed. Five-point likert scale items to measure a person’s estimate of their own “perceived susceptibility” such as in the Health Belief Model, is not an overly complex or burdensome research endeavor.

Consider for example the original “peer pressure” hypothesis: most youth initiate health-compromising behavior because peers exert pressure on them to experiment. Due to the fact that youth are not trained ahead of time on how to respond to such pressures compliance is more likely (28). One does not need an elegant psychological theory to discern the basic causal logic of how to lessen this likelihood. Essentially what is required to help youth resist complying with pressure to harm their future health is forewarning of and practice in learning resistance, refusal and avoidance techniques. McGuire in 1966 formulated the theory of “psychological immunization” that detailed this relatively simple concept (29). In the multitude of resistance curricula (i.e., D.A.R.E.) that emerged in the nation’s schools around this time each was based on some kind of psychological immunization logic (30). The authors own research in this very same area was also grounded in McGuire’s original theory (31). The following describes why the element of a “theory base” may not always be required in designing and implementing preventive health behavior programs.

Assume that School District A has a rate of teen pregnancy 4 times that of their neighboring districts. The goal is to reduce it to the normative level of these districts. The research team for District A designs a comprehensive needs assessment (NA) which will: 1.) develop an anonymous and psychometrically valid and reliable survey to delineate those factors causing this behavior (i.e., unprotected and / or precocious sexual acts) ; 2.) conduct interviews and focus groups throughout the district to get girls, teachers and
parental input on intervention strategies and boost the power of the previous survey findings; 3.) use these data to develop curricula that address the causative factors. In the final product the NA has isolated these causative factors: 1.) a lack of knowledge of the biology of conception and contraception; 2.) a lack of skill including self-efficacy to resist boys pressures to have sex; 3.) a lack of information about where to go to secure acceptable contraceptives (i.e., a teen clinic). The NA has also isolated a “lack of both a supportive environment and positive role models”, “low perception of susceptibility “ to get pregnant or be infected with HIV or an SDI (sexually disseminated infection) and other factors.

All of the variables produced by these data collection methods can each be seen in a variety of contemporary theories (i.e., HBM, SCT, TPB). Yet no theoretical framework was ever posited or accepted as driving the design of the curricula. Instead the research team has used a thorough and psychometrically sound NA to determine causal factors and subsequently designed prevention strategies to address these factors. The team has also made the sample size (N) for their intervention sufficiently large so as to optimize statistical power to detect significant effects (i.e., lowered rate of risky sexual behavior and thus reduction in new pregnancies).

What this hypothetical case study suggests is that strict incorporation of a theory to guide program development in health behavior research may not always be either required or warranted. This in turn reveals an intriguing fact of current prevention programming: many projects now utilize “multiple theories” with “multi-level, interactive variables” within their interventions to produce desired effects (26). This trend suggests that no single theory can ever completely address all myriad causal factors inherent in human health behavior. If this is true then arguments to “base programs on accepted theory” implies that theories may help guide but not necessarily define causal forces. Finally one is left with the conclusion that the initial data-finding needs assessment methodologies are what is most seminal in designing and implementing the prevention program – not a specific or group of overly complex theories.

Conclusions
In the discipline of health behavior prevention the suggestion of not basing programs upon acceptable and “evidence-based” theory is heresy. Proponents point out that without a theory as a guide intervention components are doomed to disarray and ineffectiveness. The propositions put forth here do not propose that all prevention researchers abandon the use of theory for this purpose. Certainly decades of theory-grounded research in health promotion attests to its utility across target populations, settings and varied health behaviors. Conversely we propose that valid and reliable data collection in power-driven sampling frames using triangulated methods be considered at least as important if not more so than a strict and possibly even blind adherence to popular health behavior theory. Research is underway at our university to empirically test whether prevention interventions designed without a “theoretical basis” but employing sound needs assessments with strong psychometric and sampling elements can produce significant outcomes just as favorable as comparable theory-designed interventions.

References

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Candidate Qualifications and Gender in U.S. Congressional Elections

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Candidate Qualifications and Gender in U.S. Congressional Elections

When women run for political office in the United States, they are just as likely as men to win their elections: this has been consistently verified by rigorous research (Burrell 1994; Carroll 1994; Carroll and Strimling 1983; Duerst-Lahti 1998; Hogan 2010; Sanbonmatsu 2006; Seltzer, Newman, and Leighton 1997). Many women’s political organizations (including EMILY’s List, and the Women’s Campaign School at Yale; see LeMieux 2011) use the slogan “When women run, women win!” to provide encouragement, advice and training for potential women candidates.

On the other hand, the political science literature convincingly demonstrates disadvantages for women candidates: media bias (Falk 2008; Lawless and Fowler 2009; Niven 2005; Niven and Zilber 2001), voter bias (Dolan 2004; Fox and Oakely 2003; Huddy and Terkildsen 1993; Paul and Smith 2008), cultural stereotypes that portray women as weak and emotional (Alexander and Anderson 1993; Brooks 2011; Carli and Eagly 2001; Ridgeway 2002), political parties’ failure to recruit women to run for office (Fox and Oakely 2003; Lawless and Fox 2005; Niven 2006; Sanbonmatsu 2006), and increased primary election competition (Lawless and Pearson 2008). In addition to, or more likely because of all these obstacles, far fewer women than men choose to run for political office. There have been approximately seven times more male than female candidates during recent U.S. election cycles (Dolan, Deckman and Swers 2007, 139).

So, women candidates face more obstacles than men running for office, but women are just as likely as men to win their elections. How can this apparent contradiction be explained? Lawless and Fox (2004, 2005, 2011) and Anzia and Berry (2011) provide clues. Jennifer Lawless and Richard Fox’s line of work (2004, 2005, 2011) on candidate self-assessment and political ambition explores some of the reasons that women seem to self-select out of elections. Lawless and Fox (2005, 144) conclude their examination of gender differences in political ambition with this prompt:

As long as women must meet higher standards, both self-imposed and external, then the apparent absence of voter bias against women candidates might reflect the higher average quality of women candidates, as compared to men.

Anzia and Berry (2011) argue that because of obstacles faced by women candidates, only the hardest working and most talented women will make it to Congress. Consequently, congresswomen outperform congressmen when it comes to securing federal funding for their constituents. The line of reasoning emerging from the research of Lawless and Fox (2005) and Anzia and Berry (2011) is the same line of reasoning that motivates our research: there are good
reasons to expect that women candidates for office might, on average, be better qualified than the men they compete against.

Our research helps to explain how it can be true that women face more obstacles than men when seeking office, and yet, when women run for office they are just as likely as men to win their elections. We provide answers to this apparent contradiction by creating a unique Candidate Qualifications measure that considers a candidate’s political experience over his or her career. We expect that women congressional candidates tend to be better qualified than men congressional candidates, and that women candidates have to be better qualified than their male counterparts to achieve the same electoral outcomes. When we measure the breadth and depth of each candidate’s experience, we find that women running for the U.S. House of Representatives (2004-2008) were, on average, better qualified than the men they opposed. Secondly, women who were more qualified than the men they opposed earned equivalent electoral outcomes.

Data and Methods

Our dataset consists of all US House of Representatives races in the 2004, 2006, and 2008 general election cycles in which a female candidate opposed a male. Women incumbents competed in 44.88% of these contests, 55.12% feature female challengers, and 11.44% of these races are for open seats. We focused on U.S. House races for two primary reasons: 1) there should be relatively few novices without measurable qualifications at this level of political office, and 2) there are enough House races with women candidates for our study to be statistically reliable. In addition, we focused on general elections because existing research has convincingly demonstrated that the process of considering a run for elective office, and competing in primary campaigns both have important gender dynamics (Fox and Lawless 2011; Lawless and Pearson 2008).

We limit our analysis to the 310 elections in which a female candidate opposed a male since doing so allows us to directly determine the effect of gender in congressional elections. Gender is unlikely to play a measurable role in elections in which two candidates of the same gender face one another, since it effectively acts as a constant. While it certainly is possible that the races in which women are competing are unique because of factors beyond what we are able to consider here, limiting our analysis to races where men and women competed against each other is the most direct way to uncover the influence of gender in an election.

Our dependent variable is the percentage of the vote that the female candidate received in the general election. Since our dependent variable is a percentage, we employ ordinary least squares (OLS). We carefully collected detailed information about each of these races, and constructed a unique way of measuring candidate qualifications.

Many of the various strategies currently used to measure candidate qualification are lacking because they are largely, or singularly, based on a candidate’s political experience immediately before being elected to Congress (Bond, Covington and Fleisher 1985; Cox and Katz 1996; Green and Krasno 1988; Krasno and Green 1988; Squire 1989; Squire and Smith 1996; Van Dunk 1997). Such measures exclude a wealth of available information publicly available about candidate education and experience, and in this way existing measures “lose” information about the level of political experience that a candidate has.

To rectify these concerns, we employ a multi-part process to measure candidate qualifications, our main independent variable. We gathered data from varied sources about the politically relevant experiences of each candidate, including newspapers, Congressional Quarterly, Project Vote Smart, and websites from the candidates themselves. Our data consists of information about each candidate’s legal experience, service on an elected school board, service in the White
House, statewide political experience in an appointed capacity, election to a post in a town of
less than 100,000 people, election to a post in a city of more than 100,000 people, election to the
lower or upper house of the state legislature, election to a statewide political office, and other
political experience. Candidates might tout this type of information in their campaigns as
qualifications, and voters may use it to evaluate a candidate’s level of experience.

To compute a score for each candidate’s qualifications, we begin with the natural stratification
that exists with our data.

[SEE TABLE ONE]

Table One illustrates the first part of the method by which we measured candidate qualifications.
This table shows each type of position that a candidate could have held, and displays the point
value that we assigned to it. Each candidate receives one point for having judicial experience as a
judge, lawyer, or a similar occupation. We assigned this point value because having legal
experience provides the background by which candidates can become viable for a seat in the
U.S. House.

Each candidate receives two points if s/he was elected to the school board, held a minor post
in the White House, or held a minor post with respect to having other political experience. We
assigned this point value for school board service because many consider this post as an entry-
level position with respect to the “ladder of ambition” (Schlesinger 1966) through which
candidates view elective office. We treat holding a minor position in the White House in the
same way as school board service because these posts tend to be relatively obscure. We
consider holding a minor post with respect to having other political experience in the same
manner as school board responsibility because these positions provide different, but equally
relevant experiences that can enhance one’s ability to effectively serve in the U.S. House.

Each candidate receives three points if s/he worked in the White House in a major capacity,
served on a statewide appointed commission, served in an unelected capacity in statewide office,
or held a miscellaneous political position of consequence. With respect to White House service,
we distinguish between minor and major posts because some positions in the White House allow
for a candidate to acquire additional, relevant experience than others. Those who served on
statewide political commissions, in an unelected capacity in statewide office, or in major,
miscellaneous capacities also received three points.

Each candidate who has served in an elective position that extends beyond the school board
received between four and eight points, depending on the post. We awarded more points to those
who served in these elected positions because of the experience gained competing in and
winning an election. Candidates who were elected to a local position in a municipality with
fewer than 100,000 people (according to the 2000 Census), received four points on this index,
while those who were elected to a local post in a municipality with more than 100,000 people
received five points on this measure.

Candidates who were elected to the lower House of the state legislature received six points
while those who served in the upper House of that chamber received seven points. Those who
served in an elective statewide capacity received eight points for having done so. Finally, this
measure captures the political qualifications of a candidate for the U.S. House up to the time that
s/he served in the chamber.

The second part of our measure recognizes the effects of having served in one position over
many years, as well as having served in several positions. The following equation shows how we
computed the rest of our measure for each candidate:
Several features should be noted about this equation, along with the notation. First, CQ is each candidate’s qualification score. Second, S is the score that corresponds to each office, which is listed in Table One. Third, i denotes each candidate, j denotes each office, and k denotes each year in which the candidate held the same office. For illustrative purposes, we demonstrate the process by which we computed Candice Miller’s candidate qualification score in Table Two.

Prior to being elected to the U.S. House from Michigan’s Tenth District in 2003, Candice Miller was the Secretary of State in Michigan. Thus, she received eight points for her first year, but received diminishing scores for each additional year as Secretary of State. We constructed the measure in this way because each additional year of holding a political office does not provide an equally-valued increase in one’s qualifications for holding a position in the U.S. House. Each additional year in the same position decreases the rate of increase in one’s qualifications for a seat in the U.S. House, as fewer politically relevant skills are gained as the duration of service in the same position increases. Consequently, we model the diminishing marginal utility of holding the same elective position for a long period of time. For instance, Candice Miller’s sixth year as Secretary of State did not add as much to her qualifications to be a member of the U.S. House than serving her fifth year did. Nevertheless, it did add to her qualifications, and she received credit for it.

Before we use a difference in means test, and ultimately, OLS, to test our theoretical expectations, we should compare how our measure fares with those instruments that other scholars have developed. Figure One contains four histograms that compare our measure for female and male candidates in mixed-gender contests. The top two histograms correspond to female candidates while the bottom ones are for men. Further, the left histograms are for our measure, while the right ones correspond to the level of highest office that a candidate held.

When we examine these measures in tandem, a few trends emerge. First, approximately 28% of female and 37% of male candidates never held prior elective office before running for the House, while approximately 48% of women and 38% of men were incumbent House members. Second, approximately 32% of women and 45% of their male opponents had a score that was very close to zero. While the low end of our scoring is very consistent with the proportion of those who have never held electoral office, it does capture other political experiences in lower-level offices. In addition, our scoring provides much greater weight to the candidates’ politically relevant experiences prior to a run for a seat in the House. The complexity of this information would be lost if we were to only consider candidates’ highest level of previous office.

To begin testing our hypotheses, we present a comparison of men’s and women’s average Candidate Qualification Scores for those candidates who ran in the general election for Congress in 2004, 2006 and 2008. This contrast allows us to consider whether male and female candidates for office differ with respect to their qualifications. Figure Two provides a visual representation of this comparison, and shows that women congressional candidates were better qualified than men congressional candidates.

The average Candidate Qualification score for women was slightly less than two points higher than men’s average candidate qualification score. Women running for Congress had an average Candidate Qualification score of 13.21, while men had an average Candidate Qualification score...
of 11.43. This indicates an important difference between the men and women who run for Congress, since there is only a 0.5% likelihood that the relationship that we have observed is completely due to random chance.\textsuperscript{15, 16}

While the results of this test are suggestive, they do not allow us to examine other factors that could affect the vote share that female candidates receive. Our next step is to use OLS to examine the relationship between candidate qualifications, and electoral returns. In our model, we replaced the raw candidate qualification scores for the male and female candidates with the square root of these scores to operationalize the effect of qualifications. We do so because the raw candidate qualification scores are not normally distributed, and thus, violate the normality assumption of OLS. When we use the square root of these scores, they become normally distributed in cases where the score exceeds zero. This strategy allows us to determine the effects of candidate qualifications, in an absolute sense, on our dependent variable, the percentage of the vote that the female candidate received. We expect a positive sign on the coefficient for female candidate qualifications, indicating a positive relationship between female vote share and female candidate qualifications, but a negative sign on the coefficient that corresponds to candidate qualifications for male candidates.\textsuperscript{17}

Beyond candidate qualifications, candidate-specific considerations, like age, race, and incumbency status, may affect the percentage of the vote that women candidates for the House receive in mixed-gender elections.\textsuperscript{18} We create two binary variables that indicate whether female and male candidates are members of a racial minority group. Following work by numerous researchers, we suspect that women candidates with racial minority status may have an electoral advantage that does not extend to white women, or to men with racial minority status (e.g., Darcy and Hadley 1988; Philipot and Walton 2007; Smooth 2005; Tate 2003). Also, we include the ages of women and men candidates for the House from various sources to control for the potential effects of candidate age. It is possible that more mature candidates will have an easier time convincing voters that they are more experienced, and therefore more qualified to hold office.

We generate two sets of binary variables to investigate the effects of incumbency, and those of being a first-term member of the House. First, we create two separate binary variables to account for the effects of incumbency, or being a member of the party that held the seat: one for females, and the other for males. Political incumbents are much more likely to win elections than their challengers for a wide range of reasons, like name recognition, fundraising advantages, issue uptake, experience, and the partisan composition of the district (Alesina and Rosenthal 1995; Center for Responsive Politics 2012; Jacobson 1978, 2009; Oppenheimer 2006; Sulkin 2005). Second, we generate two dummy variables to consider the effects of a member’s first term on his or her vote share in the next election: one for females, and the other for males.\textsuperscript{19}

We also need to consider the local context in which House elections take place. First, we gathered each district’s vote for the Democratic presidential candidate during the most recent presidential election from \textit{The Almanac of American Politics} (Barone 2005, 2007, 2009). Because we expect more liberal districts to be more supportive of women candidates, we expect a positive sign on this variable (McDermott 1997; Norrander and Wilcox 1998). Second, we include a measure that incorporates Palmer and Simon’s (2008) work on “female friendly districts. Values for this index range from zero, for least female-friendly, to eleven, for the most female-friendly district for each candidate from each party.\textsuperscript{20}

Finally, previous research has demonstrated that national-level political conditions affect vote shares in at least two ways. First, we consider the effects of presidential approval on vote share,
since higher approval ratings help members of his party. Following Carson, Koger, Lebo, and Young (2010), we code presidential approval so that higher ratings help members of his party, and lower ratings harm members of the opposite party. Second, we include the vote share that each candidate (or the one from his or her party) received in the previous election to account for the effects of prior electoral success. We anticipate positive signs on both variables.

**Results**

Table Three displays the results. Model One displays the results for all elections, while Model Two contains the results for all mixed-gender, open seat races. Model Two excludes the effects of incumbency and first-term effects because there are no first-term members or incumbents in these contests. In addition, we used a streamlined modeling strategy that was comparable to our full model, since there were only 38 open seat, mixed-gender contests during these electoral cycles. To ensure that we have appropriately estimated our standard errors in the open seat model, we use bootstrapped standard errors. Bootstrapping allows a researcher to resample with replacement from the empirical distribution to compute unbiased and consistent standard errors in cases where a researcher makes broader inferences from a relatively small sample (see Efron and Tibshirani 1993, for more information).

These models provide substantial evidence that supports our expectations. Models One and Two demonstrate that candidate gender interacts with candidate qualifications in a way that provides a substantial advantage to male candidates. A one standard deviation increase in the transformed Qualification Score for a woman candidate increases the percentage of the vote that she receives by an average of 1% for all elections. However, a one standard deviation increase in the transformed qualification score of her male opponent decreases the percentage of the vote that she receives by 1.4% for all elections. Women’s qualifications are measurably less effective than men’s qualifications in generating support from voters.

Interestingly, these effects increase in size when we examine mixed-gender, open seat races. In races without an incumbent, a one standard deviation increase in the transformed Qualification Score of a female candidate increases the percentage of the vote that she receives by 2.19%. Yet, a one standard deviation increase in the transformed qualification score of her male opponent decreases the percentage of the vote that she receives by 4.08% in open seat races. When neither candidate has the advantage of incumbency and voters assess candidates’ qualifications presumably for the first time, men’s qualifications seem to be far more persuasive than women’s qualifications in terms of generating support from voters.

These findings imply that voters assign more weight to male candidate qualifications than those of female candidates. To verify this implication, we tested whether the observed differences in our key coefficients in Models One and Two are statistically significant. We discovered that these differences are statistically significant for all contests (t=4.632, p<.0001 for Model One), but not for open seat races (t=.825, p=.198 for Model Two)—though this may be due to the small number of open seat races that pitted women candidates against men. Therefore, an increase in a candidate’s qualifications for a man does more to boost his share of the vote than does an equivalent increase in a woman candidate’s qualifications when examining all races.

Models One and Two provide substantial evidence that candidate qualifications affect the vote share that female candidates receive. Women challengers can expect to receive between 6.30% and 8.16% fewer votes than men incumbents. However, women incumbents receive an average of between 9.15% and 11.04% more votes than their male challengers. Incumbency provides...
more of an advantage for congresswomen as opposed to congressmen. This pattern could reflect variations in the quality of challengers that incumbent congresswomen and congressmen face. This pattern could also reflect the strategic choices that men and women challengers make when deciding whether or not to run against an incumbent. More research is needed to investigate the ways in which gender and incumbency interact in congressional elections.

**Discussion and Conclusions**

The Candidate Qualification Scores that we developed and presented in this work provide thorough, meaningful information about the qualifications of men and women who run for Congress, and about how voters respond to the qualifications of these candidates. Women congressional candidates in the 2004-2008 elections were better qualified than the men they opposed. Further, politically relevant experiences have different electoral payoffs for men and women candidates. Increases in Candidate Qualification Scores correspond with increases in vote share for both men and women congressional candidates. However, women’s qualifications have a much smaller positive effect on increasing women’s vote share than men’s qualifications have on increasing men’s vote share. In terms of generating increases in vote share in the 2004-2008 races for the U.S. House, women’s qualifications in mixed gender races might be worth far less than men’s qualifications, and when neither candidate is an incumbent, men’s advantages are even more pronounced.

Despite this bad news for women candidates, there is one circumstance where women congressional candidates appear to have an advantage: when the woman candidate is an incumbent. Incumbency provides more of an advantage for congresswomen than it does for congressmen. This makes sense when considering Anzia and Berry’s (2011) work: perhaps women see greater incumbency advantages because congresswomen introduce more legislation, and are more successful in securing federal funding for their constituents.

The findings presented here help to explain the disconnect between obstacles that women candidates face (Fox and Oakley 2003; Niven 2005; Niven 2006; Paul and Smith 2008; Lawless and Pearson 2008), and evidence that women win their elections as often as men (Carroll 1994; Sanbonmatsu 2006; Seltzer, Newman and Leighton 1997). Many researchers have interpreted findings of general neutral outcomes to imply a lack of voter bias against women. However, the women who ran for Congress in 2004, 2006, and 2008 were better qualified, on average, than the men they opposed. Our work indicates that gender neutral electoral returns mask electoral advantages for men candidates. Equal electoral returns for unequally qualified candidates are not an indication of a level playing field.
References


Niven, David and Jeremy Zilber 2001. “‘How Does She Have Time for Kids and Congress?’ Views on Gender and Media Coverage from House Offices.” Women and Politics. 23 (1/2):147-165.


Cambridge University Press.
Figure One: Candidate Qualifications and Level of Highest Office Histograms for Women and Male Candidates in Mixed-Gender Contests
Notes: First, the top figures are for female candidates while the bottom figures correspond to their male opponents. Second, the left figures correspond to the candidate qualifications measure that we use in this paper, while the right figures correspond to the level of highest office.

Figure One: Candidate Qualifications and Level of Highest Office Histograms for Women and Male Candidates in Mixed-Gender Contests
Notes: First, the top figures are for female candidates while the bottom figures correspond to their male opponents. Second, the left figures correspond to the candidate qualifications measure that we use in this paper, while the right figures correspond to the level of highest office.
Figure Two: Male and Female Candidate Qualification Scores in Mixed-Gender Contests

Difference in Means Test: $t=2.573$, $p=.005$

Note: The number in parentheses is the number of cases in each category.
Table One: Measuring Candidate Qualifications for the U.S. House

<table>
<thead>
<tr>
<th>Politically Relevant Experience</th>
<th>Scoring</th>
</tr>
</thead>
<tbody>
<tr>
<td>Judicial Experience</td>
<td>1</td>
</tr>
<tr>
<td>Elected to the School Board</td>
<td>2</td>
</tr>
<tr>
<td>Worked in the White House</td>
<td>2 if the person held a minor post</td>
</tr>
<tr>
<td></td>
<td>3 if the person held a major spot</td>
</tr>
<tr>
<td>Served on a statewide appointed commission</td>
<td>3</td>
</tr>
<tr>
<td>Elected to a local post in a city with fewer than 100,000 people</td>
<td>4</td>
</tr>
<tr>
<td>Elected to a local post in a city with more than 100,000 people</td>
<td>5</td>
</tr>
<tr>
<td>Elected to the Lower House of the State Legislature</td>
<td>6</td>
</tr>
<tr>
<td>Elected to the Upper House of the State Legislature</td>
<td>7</td>
</tr>
<tr>
<td>Statewide Office</td>
<td>3 if Unelected Position</td>
</tr>
<tr>
<td></td>
<td>8 if Elected Position</td>
</tr>
<tr>
<td>Other Political Experience</td>
<td>2 if the person held a minor post</td>
</tr>
<tr>
<td></td>
<td>3 if the person held a major spot</td>
</tr>
</tbody>
</table>
Table Two: Candice Miller’s Candidate Qualification Score

<table>
<thead>
<tr>
<th>Politically Relevant Experience</th>
<th>Number of Points</th>
<th>Number of Years in Position</th>
<th>Candidate Qualification Score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Legal Experience</td>
<td>1</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Elected to the School Board</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Worked in the White House</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Served on a statewide appointed commission</td>
<td>3</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Elected to a local post in a city with fewer than 100,000 people</td>
<td>4</td>
<td>2 Years as Town Trustee, 6 Years as Town Supervisor</td>
<td>$(4/1) + (4/2) + (4/3) + (4/4) + (4/5) + (4/6)$</td>
</tr>
<tr>
<td>Elected to a local post in a city with more than 100,000 people</td>
<td>5</td>
<td>4 Years as County Treasurer</td>
<td>$(5/1) + (5/2) + (5/3) + (5/4)$</td>
</tr>
<tr>
<td>Elected to the Lower House of the State Legislature</td>
<td>6</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Elected to the Upper House of the State Legislature</td>
<td>7</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Elected to statewide office</td>
<td>3 if she held an appointed position</td>
<td>8 Years as Secretary of State</td>
<td>$(8/1) + (8/2) + (8/3) + (8/4) + (8/5) + (8/6) + (8/7) + (8/8)$</td>
</tr>
<tr>
<td></td>
<td>8 if she held an elective position</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other Political Experience</td>
<td>2</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total Score</td>
<td>-</td>
<td>-</td>
<td>47.960</td>
</tr>
</tbody>
</table>

Note: She was the incumbent candidate.
Table Three: Gender and Candidate Qualifications in Mixed-Gender Contests in the 2004-2008 General Election Cycles

<table>
<thead>
<tr>
<th>Independent Variable</th>
<th>Candidate Qualifications Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Theoretical Expectations</td>
</tr>
<tr>
<td><strong>Candidate Qualifications</strong></td>
<td></td>
</tr>
<tr>
<td>Female Candidate Qualifications (Transformed)</td>
<td>+</td>
</tr>
<tr>
<td>Male Candidate Qualifications (Transformed)</td>
<td>-</td>
</tr>
<tr>
<td>Female Candidate Previous Office</td>
<td>+</td>
</tr>
<tr>
<td>Male Candidate Previous Office</td>
<td>-</td>
</tr>
<tr>
<td>Female Candidate Highest Level of Previous Office</td>
<td>+</td>
</tr>
<tr>
<td>Male Candidate Highest Level of Previous Office</td>
<td>-</td>
</tr>
<tr>
<td><strong>Candidate Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>Female Racial Minority</td>
<td>+</td>
</tr>
<tr>
<td>Male Racial Minority</td>
<td>-</td>
</tr>
<tr>
<td>Female Age</td>
<td>-</td>
</tr>
<tr>
<td>Male Age</td>
<td>+</td>
</tr>
<tr>
<td>Female Incumbent</td>
<td>+</td>
</tr>
<tr>
<td>Male Incumbent</td>
<td>-</td>
</tr>
<tr>
<td>Female Candidate First-Term</td>
<td>-</td>
</tr>
<tr>
<td>Male Candidate First-Term</td>
<td>+</td>
</tr>
<tr>
<td><strong>District and National-Level Characteristics</strong></td>
<td></td>
</tr>
<tr>
<td>District Presidential Vote</td>
<td>+</td>
</tr>
<tr>
<td>District Female Friendliness</td>
<td>+</td>
</tr>
<tr>
<td>Presidential Approval</td>
<td>+</td>
</tr>
<tr>
<td>Previous Vote Share</td>
<td>+</td>
</tr>
<tr>
<td>Constant</td>
<td></td>
</tr>
<tr>
<td>N</td>
<td>310</td>
</tr>
<tr>
<td>R-Squared</td>
<td>.832</td>
</tr>
<tr>
<td>Adjusted R-Squared</td>
<td>.823</td>
</tr>
</tbody>
</table>
Appendix A: Summary Statistics for Candidate Qualifications Variables

<table>
<thead>
<tr>
<th>Variable</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
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<td>8.452</td>
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<td>.473</td>
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<tr>
<td>Male Candidate Previous Office</td>
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<td>Male Age</td>
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Endnotes

1 For example, women may be selectively entering certain types of races, or men with distinctive characteristics may be more interested in challenging women candidates.
2 We ran our model with male candidate vote share as the dependent variable, and received identical results to those presented in this analysis. We also ran the model with the difference between the female and male candidate’s vote shares, and received identical results. Finally, we ran a logistic regression in which the dependent variable is whether the female candidate won each election. The results from this regression are similar to those reported here for all races, but diverge for open seat contests. We are happy to provide these models upon request.
3 A sampling of these posts include having been Assistant Director for Urban Affairs, Associate Director for National Security, Assistant Secretary for Planning and Evaluation at the Department of Health and Human Services, Regional Director for the Department of Health, Education, and Welfare, Associate Director of National Security, Assistant Press Secretary, and Assistant to the Secretary of the Interior.
4 A sample of these posts includes service as, President of the Louisiana Conference of Mayors, Administrator for the Equal Employment Opportunity Commission, Attorney for the House Ethics Committee, Deputy Commissioner for the Philadelphia Human Rights Department, Deputy Director for the Division of Economic Opportunity, and Regional Director for Lt. Governor Mario Cuomo.
5 For example, the only candidate with such experience in our dataset, Dana Rohrabacher (R-CA), worked as a senior speechwriter for former President Ronald Reagan for seven years.
6 Most of those who receive an additional point for having served in a major, miscellaneous capacity served as legislative staffers. Those who hold these positions receive an “insider”’s view with respect to Congress, and gain additional, politically relevant skills that are helpful with respect to running for, and serving in the House.
7 The local posts that tended to receive four points were mayors or councilmembers in smaller cities. The local posts that generally received five points were mayors or councilmembers in larger cities, or served on the county board of supervisors in a larger county.
8 We assigned a higher number of points to those with experience in local posts than school board service since those who occupy local posts gain a higher degree of politically relevant experience for serving in the House.
9 We treated any who served in the Nebraska state legislature as a member of the upper House, since this body is unicameral.
10 A sample of these positions includes Lieutenant Governor, Treasurer, Secretary of State, and the Attorney General.
11 We constructed a parallel measure in which we include having served in Congress as part of the index. After all, being in Congress for a longer period of time could make one more qualified in the eyes of voters to hold that post. That said, we decided to use the measure that is in this paper instead of that one because a measure that includes congressional experience embeds incumbency. We argue that incumbency is theoretically distinct from the qualifications that candidates have to serve in the chamber, and should be modeled separately. Our results are identical for all mixed gender contests and very similar for open seat races when we substitute a measure that includes having served in Congress. We are happy to provide these models upon request.
12 One can argue that discounting each additional year of political experience in a position might undermine our empirical analysis, particularly since one of our central theoretical motivators is that women stay longer in their political positions to gain additional experience before running for higher office. To account for this possibility, we created a separate measure for candidate qualifications that eliminates the discounting factor for additional years in each position and accounts for “experience-years.” To do so, we multiply the experience that each candidate had in each political office by the point value for each office. When we use this measure of candidate qualifications in place of the measure that is in this paper, our results are identical to those that we have reported. We are happy to provide these
models upon request.

13 This variable is coded one when a candidate was on the school board or held a minor position in the White House immediately prior to the election; two when this candidate held an appointed statewide office, was on a gubernatorial commission, or held a consequential post in the White House immediately prior to the election; three when this candidate held elective office in a municipality that contains fewer than 100,000 people immediately prior to the election; four when this candidate held elective office in a municipality that contains more than 100,000 people immediately prior to the election; five when this candidate held elective office in the lower house of the state legislature immediately prior to the election; six when this candidate held elective office in the upper house of the state legislature immediately prior to the election; seven when this candidate held elective office in a statewide elective position immediately prior to the election; and eight when this candidate was a member of the House immediately prior to the election.

14 It is possible that the results that we obtain using our measure are an artifact of the weights used to construct the measure. To explore this possibility, we constructed an alternative form of our measure using factor analysis in which we utilize the years in each position as the variables by which to construct weights for each candidate by its factor loading. When we replace our measure of candidate qualifications with this one, we discover that the variable for women is statistically significant and in the expected direction for all mixed-gender contests, but the one for males is not significant. In addition, neither variable is significant when we examine open seat contexts. Because these results are not consistent, this finding warrants further investigation with a much larger dataset. This would allow researchers to more effectively investigate whether there are multiple dimensions to candidate qualifications that can be used as separate composite variables.

15 Because our candidate qualifications measure is not normally distributed, there are two options by which to conduct an appropriate test of statistical significance: 1) use a non-parametric test of statistical significance; or 2) transform our scores such that they are normally distributed, and then, perform the difference in means test. We opted for the second option, as normality is a critical assumption by which Ordinary Least Squares operates. Thus, we computed the square root of these scores to normalize the distribution of both scores. Then, we computed our difference in means test on the transformed scores. The results are substantially similar to those that we report here, since the t-score using the transformed scores was 8.13, with a p-value of less than .0001.

16 The male and female candidate qualification scores have different minimum and maximum values, but are calculated using the same procedures.

17 We ran our models with the difference between the candidate qualification scores for the female and male candidates as an independent variable in place of the scores for male and female candidates. The sign on the coefficient was positive and statistically significant. We received identical results to those that are presented in this paper. We are happy to provide these models upon request.

18 In separate models, we also included a binary variables for female and male candidates if they self-identified as Democrats, as Thomsen (forthcoming) argues that female Republican candidates are less likely to run for seats in the House. She argues that female Republicans are less likely to run because they tend to be located to the left of their party medians in their respective state legislatures. We discovered that the signs and significance patterns on our candidate qualifications measures do not change when we employ the models in Table Three. However, the coefficient for female Democrats is positive and statistically significant when we examine all candidate, but is negative and statistically significant in two of three specifications. In most specifications, the control variables retain the same signs and significance patterns. These models are available upon request.

19 Jacobson (1978, 2009) and others have discovered that candidate spending affects the outcome of elections. We do not incorporate the effects of candidate spending in the models that we report in this analysis because it is endogenous with our main variables of interest: candidate qualifications. It might be endogenous because candidate qualifications could also affect giving patterns in that donors are unlikely
to give to candidates who do not have sufficient prior electoral experience. To use an approach that would fully address this concern, the instrumental variables technique, we would need to discover a variable that affects candidate spending, but does not affect vote share. We were unable to discover such a variable, as Jacobson (1978) implies that candidate spending and vote share are so intertwined with one another. That said, we ran models in which we include varying measures of the effects of candidate spending alongside those of candidate qualifications and the remaining independent variables, but received inconsistent results. These models are available upon request.

These values were computed based on demographic data for the 2000 Census, and do not vary over time within our dataset.

It is possible that the results of this analysis are an artifact of combining three election years that differ in partisan trends on a national level. To consider this possibility, we have replaced our measure of presidential approval with two binary variables for the 2004 and 2006 election cycles. The signs and significance patterns of our results are identical to those that are reported in this paper. These models are available upon request.

We coded presidential approval as the raw approval number minus 50% for members of the President’s party. We multiplied minus one to this number for those members from the party opposite the President. We used the most recent Gallup poll prior to each congressional election.

It is possible that our standard error estimates for Models One, Three, and Five could be influenced by heteroskedasticity. To consider this possibility, we estimated the Cook-Weisberg tests for heteroskedasticity for each model. When we did so, the tests indicated that heteroskedasticity was not an issue for Models One and Three, as the test values failed to achieve statistical significance. However, the test for Model Five suggested that heteroskedasticity could be present, since the test value was statistically significant. We estimated Model Five with robust standard errors to correct for any potential issues related to heteroskedasticity, and found that the results mirror those that we report in this paper. We will happily provide these models upon request.

Lawless and Fox’s (2005, 2011) research suggests that candidate qualifications may be more consequential for new female candidates for Congress than incumbents. To investigate this possibility, we ran Models One, Three, and Five for new female candidates, and discovered results that compare favorably to those that are reported here, especially for all mixed-gender contests. We are happy to provide these models upon request.

We used 50 replications in our bootstrapping procedure.

Because the candidates in each race split the vote share, a decrease in the female candidate vote share implies an increase in the male candidate’s vote share.

See Clogg, Petkova and Haritou (1995) for the formula that we used to compare these regression coefficients.

It is possible that adding our measure of candidate qualifications to the model might not explain much additional variance in our dependent variable. To check this possibility, we ran our models without the candidate qualification measure. We discovered that the $R^2$ decreased by about 1.4% for Model One, and 17.6% for Model Two, when we excluded our candidate qualification measure. Thus, our measure does provide additional explanatory power, especially when examining open-seat races.
Using Social Media for Induction and School Leadership Development

Kim Hartung
Hamline University

Abstract:
Leadership for today’s diverse and complex schools requires support systems to help transform classroom teachers into effective instructional leaders. Although teacher induction is commonplace, formal induction for educational leaders is uncommon. Licensure programs are required to provide evidence of preparing educators for success in the field to gain accreditation status. Thus, this study addressed how social media can be used to develop a flexible, effective induction program that provides the opportunity and incentive to support and foster leadership development and efficacy. It has important implications for the future of licensure programs and quality instructional leadership in K-12 schools.

Research Introduction and Rationale:
Leading in today’s schools has become complex and challenging with increasing accountability, diversity, technology, and legislative mandates. Educational surveys, researchers, and journalists, as well as current school and district leaders, verify this reality (MetLife, February 2013). This complexity requires school leaders to address and overcome some of the most complex demands and expectations ever experienced in U.S. public school history. Given this reality, school leadership is no longer the job of one person; instead, it has become a developmental role requiring collaborative work with a team of educators. Therefore, developing effective school leaders requires intentional induction of its novice leaders.

School leadership generally requires teachers to complete a licensure program to even be eligible for leadership roles in schools and districts. With these new leaders coming from individual classrooms into the fishbowl of a school system, the novice leader needs a support system on the job. The principal is still the one person who all fingers point to when things go bad and, less frequently, when things go well. So it is important that the leader, who comes to this position, must be guided and nurtured to meet the challenges of leading today’s schools. Teacher induction programs are commonplace, but leadership induction is often sporadic or non-existent in most districts. Most school leaders enter this role with no mentor, coach, or network of colleagues. According to Augustine-Shaw (2015) mentors are the most common; yet, fewer than half of new principals are assigned one, and half of those principals rate their mentors as only somewhat effective.

The realities of leadership needed for today’s U.S. public schools, and lack of supports for these leaders, provided a clear rationale to design an induction program for application across districts for a variety of new leadership roles. Considering the challenges for novice leaders, the design needed to assist them in their transformation from teacher to effective instructional leader. Specifically, our design for leadership induction in today’s schools required fostering efficacy and confidence with culturally-competent, instructional skills and dispositions. To apply this program statewide, social media was particularly effective in delivering a flexible induction program to meet the needs of various leaders in multiple schools and districts.

With the help of a state grant awarded to the School of Education at Hamline University (HSE) in St. Paul, MN, funds were available to begin researching induction programs for school leaders. The target audience for this support system for new leaders in entry-level positions within diverse, small school and districts with low achievement and achievement gaps. Although it was possible to find induction programs in some of the largest districts in our state and others, intentional principal support systems were almost non-existent in smaller districts. Identifying schools and districts to fit our profile was not
much of a challenge; low achievement aligns with students living in poverty, which is now 51% (Southern Education Foundation, 2015). In addition, achievement gaps identified via NAEP state comparisons by the National Center for Educational Statistics (June 2015) provide strong evidence that MN has significant gaps between Non-white students and their White counterparts. This reality caused us to incorporate ways for new leaders to address issues of diversity and student achievement with teachers and parents, since these topics prove to be the most challenging issues and the reason many principals leave, or are asked to leave, their positions (LeFevre and Robinson, 2015).

Another incentive for the work on this project was the Council for the Accreditation of Educator Preparation’s (CAEP) recently revised standards for accreditation of university education programs. These changes address Standard 4 focusing on completer and employee satisfaction; it requires the licensing institution to collect data from institutions hiring their graduates (CAEP, 2016). Universities desiring accreditation by CAEP must provide evidence of success in the field performance by their graduates receiving educator licenses. Like many university, our school recently implemented the means to address and monitor effective practices and student achievement outcomes by providing a year-long teacher internships through a co-teaching model. Therefore, a plan to support and monitor licensed administrators was highly important to the dean of our school and me in my role as faculty coordinator for administrative licensure.

The MDE grant was a welcome means to do both a literature review and active research by designing and implementing an induction program for our newly licensed educational leaders. These grant dollars became particularly helpful for planning and implementing a support system in the learning environments where our licensure graduates now serve in new leadership roles. Collaborative efforts with these schools and districts were a big player, but technology played a significant role.

Planning efforts began with a literature review of district, state, and organizational principal support systems and induction programs across the nation. It was possible to locate well-documented research on mentorship programs for new school leaders offered by the National Association of Elementary School Principals, Kansas, Kentucky, New York City, Albuquerque, NM, as well as a principal development program sponsored by the Wallace Foundation in six states. (Augustine-Shaw, 2015; Turnbull, Riley & MacFarlane, 2015; Hall, 2008; Villani, 2006; Wallace Foundation, 2007; Weingartner, 2009).

Our inquiry process also included exploring current and past district support systems for new leaders in and around the state, particularly in our largest districts. The focus was to specifically identify and validate aspects of effective induction programs for new administrators. To continue this work with greater focus and authority, the team expanded to include a former facilitator, coach, and mentor involved with administrator development programs throughout the metro area and greater MN for many years. This grant consultant provided significant insight, research, and guidance for planning the program; he was also central to implementing the program in its first year and stayed with us through year two.

**Theoretical and Philosophical Foundations:**
Overall, our research resulted in identifying three elements essential to effective programs implemented throughout the state and across the nation. Those elements included: 1.) Mentoring provided from experienced, effective and respected principals and/or district leaders (Augustine-Shaw, 2015; Hall, 2008; Weingartner, 2009); 2.) Coaching implemented by experienced school leaders who established respectful and trusting relationships, but who did not serve an evaluative role (Bloom, Castagna, Moir and Warren, 2005; James-Ward, 2013; Villani, 2006); 3.) Networking among colleagues who could share concerns, ideas, and support for one another (Drego-Severson and Aravena, 2011; Hansen and Matthews, 2002; Thomas, Grigsby, Miller and Scully, 2003).

The philosophical framework for designing our induction program for new school leaders was based upon three guiding principles, which derived from our school’s conceptual foundations: Most importantly, effective educational leaders are first learner and always teachers. They need to articulate and demonstrate their dedication and commitment to learning and teaching, as well as the systems used to deliver it. Second, schools and districts must be led by instructional leaders. The key component is “leading learning” (Fullan 2014). Fullan describes this leader as a “lead learner... who is to lead the school’s teachers in a process of learning to improve their teaching, while learning alongside them”
Finally, successful instructional leaders are culturally competent. They embrace difference by promoting equity and social justice, using effective communication skills, being flexible and creative, and navigating political arenas strategically.

With the research collected, and a framework solidified, the process of filling in the details for a flexible induction program began. The research partners intentionally planned to provide support to those school leaders who were not in a lead principal role; thus, the focus was on novice leaders in entry-level leadership positions. Our research validated that an effective lead principal should have an opportunity to hone their skills in a purposefully supportive environment and develop their leadership skills in an administrative position before taking on the lead principal role. Our grant consultant saw the outcomes of lead principals without induction opportunities, nor support in their new roles, as detrimental to leadership success and effectiveness. Since the objective of our research project was to design a thoughtful induction program for new school leaders, in a variety of district, schools, and roles with varied titles, the program came to be called the School Leader Induction Program (SLIP).

**Research implementation:**

The SLIP research partners, the grant consultant and the administrative licensure coordinator, welcomed the collaborative input of three significant individuals: a HSE faculty member and technology specialist, the superintendent of our school’s partner district, and the HSE Dean and grant coordinator, since the aspects of this project needed to align with the requirements of the MDE grant. The dean also directed involvement by our technology specialist help assure access to graduates. The superintendent was informed about the researched aspects of the program, including the coaching, mentoring and networking opportunities, but his value was the insights he contributed about the need, validity, and viability of such a program. He also provided invaluable insights on applying the induction aspects and procedures in schools; this was important since novice administrators in his district were invited to join the induction program. To create a better link between university and district outcomes for the program and its participants, it was suggested that the participants work on their district evaluation goal as part of the induction program. This goal was easily incorporated into the design plan to better hone specific district leadership qualities and support the participant’s work in the district. Ultimately, it became one of the two goals each participant developed for the program.

With a solid foundation of grant expectations, district preferences, and research findings on induction, the grant consultant and faculty coordinator took on the main work of implementing the program. Our first step was to clearly define mentoring and coaching. We found several definitions of coaching and mentoring, but both had distinct responsibilities. Specifically, “mentoring is the process, by which an individual with knowledge and skills in a field, willingly shares advice and support with a beginner” (Weingartner, 2009, p. 61). However, this author goes on to clarify that although coaching is part of the mentoring process, coaches are not always mentors.

Coaching, that results in effective practices, is defined and outlined with detailed descriptions in many resources. Merriam-Webster defines coaching simply as “one who instructs or trains” (Retrieved from http://www.merriam-webster.com/dictionary/coach on February 13, 2015). There are also elements required for leadership coaching identified by Bloom, et al (2005). They describe “a relationship based upon trust” as the most essential of all the elements for these interactions (p. 8). Other researchers (Hall and Simeral, 2008; Knight, 2007; and Villani, 2006) substantiate this. Therefore, coaching is not training, mentoring, supervising, or therapy; instead, this relationship includes agreements for confidentiality, open-communication, goal-setting, observations, coaching conversations, decision-making, and reflection. Bloom, et al (2005) also describe the many forms of coaching. In the role of induction coach, different types of coaching strategies may be necessary. For very new administrators, coaching may need to be more instructional than facilitative, which is found to be necessary for transformation a school leader’s more “change-resistant domains of disposition” (p. 83).

Given our research findings on induction, we decided our program would include coaching as the focal point. Since our grant consultant was a seasoned coach with years of successful coaching interactions, he took on the role of coach. Given his past experience as a successful principal in an urban district with a very diverse school community, our coach was also very credible in addressing issues of culturally
competent, instructional leadership. Without a doubt, our grant consultant was ready and willing to provide coaching to foster a leadership transformation.

Since we were uncertain who could and would serve as mentors in the districts where our induction participants would be working, we brain-stormed ways to include highly effective, experienced leaders to serve as mentors. In the end, we identified state-wide exemplary school and district leaders to contact about serving as mentors for some professional development events. Each of the professionals we contacted to serve as mentors were both flattered and willing to participate. Although this was delivered in a manner that could be identified as professional development for educators, it also provided an important opportunity for constructivist learning. As a result, the mentor sessions provided a positive forum for networking among the SLIP participants and the successful, mentor leaders.

Finally, it was also essential to plan ways to incorporate networking among our induction members. It has been long known that networking is an important element of providing support for school leaders; professional organizations of school administrators were established for this very purpose (Thomas, et al, Sept-Oct 2003). These groups provide many opportunities for professional collaboration, learning, support, and networking. Networking among educational professionals, in general, provides the theoretical basis for effectively establishing and maintaining professional learning communities in schools and districts (DuFour & Marzano, 2011). There was also the reality that networking among new administrators, with limited time in various buildings, would pose a challenge. This was further complicated by the fact that, as researchers, we wanted to facilitate the networking opportunities to monitor the knowledge and skill development related to culturally competent, instructional leadership. As facilitators and instructors of adult learners, we also understood the need for designing effective and purposeful opportunities for learning and collaborating.

An obvious means for collaboration among our induction members, given the limitations and needs, was to utilize technology for networking. Social media and the web provide this opportunity when face-to-face coaching and networking is difficult to accommodate (Ballard, 2013). The research group agreed social media could accelerate an interest in networking among the new school leaders. It was also agreed that social media tools would provide a familiar format for connecting, sharing documents, storing resources, collaborating, and learning. To assure access to a networking platform, we decided to explore Google+ tools for use among our members. The use of these tools had many advantages: they would be more accessible to a wide group of participants; they would be available at no cost; the participants may already be somewhat familiar with some of the Google tools; and many districts are already set up with gmail accounts (Villapaz, 2014).

The tech-specialist member of the planning team members was a valued resource in this area. With her guidance, we decided Google+ was the best choice of social media for professional collaboration with a small group of new school leaders. It was also decided that we needed a facilitator for networking, so the faculty coordinator for the administrative licensure program took on this role. The SLIP coach and facilitator determined they should both be in attendance at all the networking sessions taking place either online or during the mentoring sessions. To achieve this, the technology specialist served as social media trainer. Her patience and encouragement, along with her familiarity with the tools, were essential to developing the skill and comfort level with required by the SLIP facilitator and coach. They worked together, on and off, for about a month to eventually acquire tech savvy. In the end, a Google+ community was created to provide opportunities for holding chats or “Hangouts”, sharing and storing resources, and conducting group networking sessions. It was necessary to establish norms, design facilitation procedures, and practice Hangout sessions in order to comfortably and efficiently use the tools. With our learned proficiencies, the SLIP coach and facilitator committed to using Google+ tools for our entire induction program.

Identifying new school leaders to participate in the SLIP program was the final planning task. The superintendent who served on our planning committee was contacted about involvement in the program. This district, along with another smaller school district with significant diversity and involvement with our university, provided enough participants for our first year’s implementation. Our intent was to invite some of our administrative licensure graduates, who were recently hired for various leadership roles in
these districts, to participate in the induction program. The superintendents of both these districts were so supportive and enthusiastic about the program, that they personally connected our grads and other new school leaders to encourage them to participate. As a result, the induction program began with eight participants.

**Implementation Steps:**

Implementation of the program began with an Orientation Session shortly after the school year started. It was followed by an introductory coaching meeting and seven months of coaching sessions, three mentor-networking professional development events, and regularly-scheduled, monthly online networking sessions via Google Hangouts. The SLIP coach and facilitator took responsibility for the details of each of the program components including following-up, assessing involvement, meeting individual needs, and revising upcoming activities. Any adjustments were made after reviewing coaching notes, collecting exit cards at mentor sessions, and monitoring participation during Hangouts. In addition, continued, although periodic, involvement of the other research team members assured a solid program.

The orientation session was planned so all participants were able to attend, since few knew each other, the coach, or facilitator. An important element of this event was for each of the participants to become familiar enough with each other to assure their comfort with the coach, as well as their attendance and participation in the networking sessions. As a result, we intentionally included ice breakers, introductions, opportunities to share personal goals related to leadership, and an outline the program and its delivery methods.

During the orientation session, induction participants were excited to learn about the three elements of the program. Specifically, they were informed about the monthly, hour-long coaching sessions that would occur at each participant’s school site. They also heard about the three topic-specific, evening mentoring sessions that would include dinner, leadership insights, dialogues, and resources provided by exemplary mentors from around the state. They appeared satisfied with the topics, which were to include time management for school leaders, instructional leadership, and cultural competence. Finally, they learned about the creation of a SLIP Community using Google+ tools to provide a forum for group communication, resource storage and sharing, as well as the monthly networking sessions among the facilitator, coach, and participants. They specifically vocalized their appreciation to connect with others new school leaders, since they wanted and were seeking the support of others educators new to leadership. At the first year’s orientation, we did not anticipate the need to provide training on the Google+ tools, since each participant claimed familiarity with using them.

Orientation ended with each SLIP participant scheduling their initial meeting with the coach to establish their goals for the program. The coach was intentional in describing the process for setting goals. The participants were directed to identify two goals: the first was to be the goal they established for the district’s professional evaluation; the other goal would be self-selected and relate to the program’s focus on culturally competent, instructional leadership. The coach helped revise the second goal, if it was not specifically directed to foster effective instructional leadership in the participants’ diverse learning environments. Documents used to record the goal-setting process, as well as to provide evidence of the progress on those goals, were housed in group and individual shared Google files.

The SLIP coach and facilitator were delighted that both districts participating in the first year of the program utilized gmail as well as related Google tools. However, after establishing the SLIP Community using Google+ tools, we were surprised by the hesitancy of our participants to use or, for some, to even access them. Although, our participants were rather young and regular users of social media, they had questions about the use of Google+ tools. As we established shared documents and files, we found it necessary to remind the participant about their use. As a result, we did find ourselves confronted with some unexpected issues and concerns.

Most importantly, we came to realize that tech skills varied; we found that even people who frequently use technology at a personal level had difficulty transferring those skills into the learning context. In addition, many of the participants were also learning to navigate new administrative software for their new leadership roles. Initially, this reality took priority over developing comfort with the Google+.
Surprisingly, our greatest challenge was the reality that some school-issued Google accounts did not have access to Google+ tools. The university, as well as one of the districts we were working with, had not enabled Google+ as part of their Google Apps for the Education suite. In order to participate in our Google+ SLIP community during the initial year, the researchers and several participants needed to create or use a non-school Google+ account. It was a challenge to some SLIP participants, as well as the facilitator and coach, to work with a secondary Google account. This was particularly a challenge when we would send messages or reminders about an upcoming group event. At first, we only sent these to the Google+ accounts, but not all the participants checked those accounts regularly, so RSVPs were necessary.

Another unanticipated challenge during the first year was the reluctance of participants to acknowledge their own shortcomings with the technology. We had low attendance at the first few Google+ Hangout sessions, and most of the absentees did not let us know in advance. At that point we realized some participants hesitated to join a Hangout, because they either felt uncomfortable using the tool, or they did not have a chance to navigate its use before a session. To address this need, we sent invitations to the participants for individual Hangouts to practice using the tool. In hindsight, including practice with Hangouts at our Orientation Session was a needed addition.

By the mid-point of our networking sessions during our first year, we had a solid number of participants attending our online networking sessions. Our tech specialist also surveyed the participants to identify their issues and concerns with the technology for those sessions. Many were comfortable with the tools, but some disclosed discomfort with the depth of the conversation and disclosure occurring over social media among the participants. Since they were sharing concerns about students or colleagues, as well as admitting a lack of success with some leadership responsibilities, we needed to revisit the norms and validate our commitment to confidentiality.

The mentoring sessions, which also included opportunities for networking, proved to be highly valued by the induction participants. We had 100% attendance at each of these sessions. The three sessions addressed developing as culturally competent instructional leaders. The December mentor session focused on School Leadership and Time Management. Highly respected K12 principals, some already highly successful as new school leaders, were invited. The mentoring these principals provided proved captivating and inspired the novice leaders. Dialogue was centered on their stories, insights, and advice.

The February mentoring session focused on Cultural Competence. At that session our mentors included district-level and state-wide leaders whose work focused on diversity, as well as principals. The mentees actively participated in the discussions and dialogued with the mentors and other SLIP participants. The last session in May was highly interactive. It addressed Instructional Leadership and supporting teachers by creating productive learning environments through effective interpersonal communication and change leadership. New principals tend to struggle addressing issues of teacher performance and having difficult conversations (LeFevre and Robinson, 2015). For as these authors note, all new instructional leaders will need to develop these skills to increase their “effectiveness in tackling the tough interpersonal problems they encounter as they seek to improve teaching and learning” (p 89). As a result, we felt it was essential to address these issues during our final mentoring and networking session. Our mentors for this session were district and state leaders who provide professional development for school leaders, including the principals who work closely with them.

Although SLIP members were more listeners than active networkers at our first mentor session, when the coach asked each participant about the session, they all shared that it was well appreciated—even highly valued. As the months went by and we had more online networking opportunities, participation during the mentor sessions increased. By the mid-point, networking and sharing clearly became more interactive and appreciated. The participants seemed most appreciative of having both new and seasoned leaders involved in the mentor sessions. Although different mentors provided different insights and lessons, SLIP participants became more engaged with them over time. They asked in-depth questions and identified their challenges to solicit advice. The resources provided by all the mentors we greatly appreciated, such as book titles, researchers, mottos, and metaphors. While the participants listened intently during the sessions, they also referenced the resources and mentor session content at later
coaching and networking sessions. The topics included getting along with supervisors, addressing ineffective instruction with teachers, and professional aspirations.

**Collecting Data:**

As planning team members, we set out to be intentional about assessing our success with the induction program; to accomplish this we identified several methods for collecting both quantitative and qualitative data. After securing approval of the participants, we established the means to share documents using Google files. We created a Google file for each participant to be shared with the SLIP coach and facilitator. This folder contained notes from coaching sessions, a mid-point and final survey, and final interview questions. The purpose for establishing individual files was to be assured the researchers could access the files and data, while the participants could assure accuracy of the document information. We were careful about setting up these shared folders to gain accurate and reliable data to assess our outcomes.

Since the coaching sessions were scheduled to meet monthly, documents were posted after each monthly session. The content included information collected at the initial interview when the coach and participant established the two goals they would work on over the duration of the program. The notes collected during each coaching session, between the initial and the final interviews, documented the work and progress made toward attaining these goals. We verified that each participant included the goal for their district’s professional evaluation process as one of the two goals. This was important since annual goal-setting for professional development and growth became a new state mandated aspect for all MN principals during the first year of the program. A predetermined set of final coaching questions were asked during the final session. The procedures used provided detailed, qualitative evidence of the successes and challenges with goal attainment achieved during the SLIP induction program.

In addition to collecting data during monthly coaching sessions, we utilized a mid-point assessment to determine all the attributes of the program. The first was done using a paper survey to allow for anonymity. It was completed after the second of the three mentoring sessions. This survey addressed the mentor professional development events, the online networking sessions or Hangouts, and coaching. From this data, it was possible for the coach to make adjustments for the group, but not for individual participants, since this assessment was anonymous. Additionally, it allowed us to determine needed adjustments for our networking and mentoring sessions.

Final assessment results for the program were collected after the final coaching session. This information was collected on a Google doc and included in a participant’s individual file, so they could review or revise the data collected. This survey data was collected and documented by the SLIP facilitator during a meeting conducted in-person, via a Google Hangout, or on the phone. The intent of this format was to allow for an open-ended conversation about all the aspects of the program. It was highly important to identify and collect suggestions for any improvements and changes to apply during the second year of the research process.

**Best Lessons:**

One reason for researching the SLIP was to be assured it could fit into multiple systems for use by various new school leaders. Research helped establish the need to provide supports that fit smoothly into the participants’ new professional lives; therefore, our induction program had to accommodate new responsibilities and new required learning (Weingartner, 2009). The intent of the program was to foster a smooth transition from teacher leadership to a positional leadership role by providing valued learning, application of skills, and activities that could fit unobtrusively into their professional day. As a result, the SLIP procedures required thoughtfully and carefully planning to best support that transition process. Interestingly, the best lessons learned resulted from both challenges and successes—particularly those in the first year.

As researchers, our best overall learning was how much social media can be an asset to induction. Although there were obvious issues that slowed initial participation and required additional training and practice in our first year, incorporating social media was highly successful. Overall, it provided the flexibility, opportunity, and individuality needed to support program members in varied positions and
districts. For as Imbriale (2013) claims, “the power of social media and other digital tools is their ability to cross time and space” (p. 65).

Incorporating social media tools more intentionally in the second year of the program was imperative. This included a planned training, an expectation to participate in all SLIP program aspects, and opportunities to use Hangouts in alternative ways. Participants were expected to have or set up a Google+ account before they even began the program; communication was then limited to this e-mail account for the entire program. Practice using the tools was incorporated in to the Orientation during year two, and Hangouts commenced two weeks after that session. With thoughtful norms and effective facilitation, trust and sharing occurred within the first couple of months. Hangouts were also a wonderful option when emergencies arose and a participant could not keep a coaching session. When MN winter weather resulted in dangerous travel conditions, Hangouts provided the means to hold a coaching session online. It was also used for participation in the Orientation and mentoring sessions. Overall, as the SLIP coach and facilitator developed greater comfort and skill, participant use and ease with the tools developed quickly and was easily incorporated into operational procedures. Use of these tools also allowed SLIP to go statewide.

Another important lesson gleaned from implementation the SLIP was the need for effective facilitation and agendas for all our sessions. Providing a pre-planned, yet flexible, agenda for the monthly coaching sessions, mentor professional development, and Hangout sessions was very important. We were intentional about providing an opportunity to check-in as an opening activity; this practice set a tone of care and interest in the participants for each of the program elements and sessions. The need to intentionally include a positive sharing item before focusing on concerns helped create a dialogue that could refer back to the positives already identified. It was also important for a facilitator to keep the conversation moving and involve all the participants. During the closing of any event, it was important to recap the meeting topic, cite lessons learned, use examples shared during the session to provide incentive and encouragement, and refer participants to the resources available in shared Google files.

Two specific challenges required adjustments for year two of our program. The first was that although we had the support of district superintendents for participation in the program, this did not assure support from a building supervisor. As a result, we set up a meeting between the supervisor, the SLIP participant, and the coach prior to the first coaching session. This established a greater commitment to all the elements of the program by both the participant and supervisor. This was important, since the new leaders often needed to carve out time from their professional day to actively participate and get the most from the three program elements. Communication with district and school administrators was an important part of this process, particularly because we hoped to connect with many new leaders in a variety of districts, while also supporting district leadership objectives and goals.

A second less challenge identified was the need for almost half of the participants to adjust their personal goal. The goal identified by the district provided a solid focus for coaching work and positively impacted district evaluation outcomes for the new leader. However, personal goals were often lofty and frequently needed adjustments; the coach often lead the effort to refocus these, particularly if little or no commitment or effort were apparent by the third coaching session. Overall, December coaching sessions often went off task, as the holiday season, term changes, and taking on new workloads caused a diversion for the new leaders. However, the challenges experienced allowed the SLIP coach to do some “instructional coaching” (Bloom, et al, 2005) and redirect the new leaders to reach their goals and achieve positive outcomes.

Despite challenges, our surveys provided evidence of success. The final survey scores used the following likert scale: 1 for very dissatisfied to 5 for very satisfied. The scores documented an average of 4.7, from the first-year participants, on the 5 point scale for developing as an instructional leader in the program. Survey data also validated satisfaction with the design and aspects of our program. While the program was designed to develop cultural competence, this attribute received an average of 3.57 in the first year, but it received a 4.2 average score by the mid-point in the second year of the program. By the end of the program, first year participants validated developing skills and strategies to support teachers and learning with an average score of 4.29, while, second year participants scored 4.2 in this category by
the mid-point of the program. Surprisingly, development of efficacy scored only 4.0 at the end of the program by first year participants; however, half-way through the second year of the program, every survey respondent provided a score of 5.0 for this attribute.

Three notable successes highly contributed to the program’s successes. First, the distinction between “coaching” vs. “mentoring” was highly important. The participants appreciated that their coach, who provided mostly cognitive coaching, was not a supervisor; instead, they confirmed their coaching provided an opportunity for conversation and discovery, so these leaders could identify the best choice or course of action for a given concern, situation, or goal without concern of evaluation.

Coaching received very high scores on the final assessment after year one, the scores validated that the new leaders most appreciated the coaching sessions, over the two other components, with an average of 4.36 on a 5 point scale. Specifically, coaching work on goals scored 4.29, but developing leadership skills via coaching earned 4.43. The interview questions also identified clear evidence of important skills learned from the coaching sessions: reflective practice, strategic planning, and positive interpersonal interactions. Each of the respondents also validated how much they valued the trusting relationship developed and coaching skills utilized.

Opportunities to network with other new administrators during Hangouts and the mentoring professional development events were also highly valued by the participants. The networking opportunities both received a score of 4.29 on a 5 point scale. In particular, they were thankful for getting to know other new leaders; they also appreciated knowing that leadership experiences and issues were similar across school levels, districts, and the state. In regard to the mentoring sessions, participants appreciated the resources and insights offered from the state-wide exemplary mentors. The same appreciation was validated through the mid-point assessment, by the second group of SLIP participants, during year two of the program.

As coordinator for Administrative Licensure, a personal rationale for developing the SLIP was to increase confidence and efficacy among the new leaders. Comments collected from our participants provided evidence of this positive outcome. The following regarding coaching included: “Amazing! [The coach] did a great job of asking guiding questions, listening, and helping set up an action plan;” and “[The coach] could walk me through a variety of ways to handle a potential situation… so I had a better plan when embarking on the challenge; “and “LOVE that I get to set the goals and topics for what we talk about. It is so nice to have a coach that has no evaluative role in my professional life--he’s just an advocate for me and what I’m working on with no other organizational agenda. It’s priceless!!”

Quotes that documented success in other areas were these: “The SLIP program did connect me with other new leaders from other schools. Hangouts validated our similarities;” and “The Hangout and mentor sessions had practical meaning for our role. Sharing was helpful for suggestions and validation. Will this be available next year too?;” and “It is great to have connections at different schools….Great to hear how leaders at different levels deal with their work. Maybe we should have Hangouts more often.”

Given the evidence collected, it was clear the SLIP induction program, designed and implemented for our recent licensure graduates and collaborating districts, was a success. Its implementation and the evidence collected provide the evidence needed to support offering and expanding this program into other districts without their own induction program for new school leaders.

Conclusions:
This study required a review of social science literature; it also contributes to that research in relation to learning and leading in diverse educational settings. Our active research, conducted over the past two years, utilized and validated effective induction strategies incorporating the use of social media to create a flexible program for use by various leaders in multiple settings.

To prepare a new school leader for instructional leadership, it is essential they have a learner focus or growth mindset. This “mindset” allows the leader to continuously learn-from mistakes, from others, and from an active process of planning, implementing, assessing, and modifying ideas and solutions (Dweck, 2006). These qualities were developed and fostered through our SLIP induction program and fostered by a commitment to learning. The SLIP participants and learners also discovered that, as leaders, they must
develop trusted, interpersonal skills, which Kouzes and Posner (2010) declare as essential to effective leadership.

For today’s U.S. public schools, we need principals who are culturally competent, instructional leaders. However, highly effective instructional leadership does not require a principal to micromanage teachers in their classrooms (Fullan, 2015). Instead, successful school leaders must identify and support teacher leaders who can guide instruction and coach teachers to improve student learning. School leaders must then develop a leadership team with varying areas of expertise and skill (Kotter, 2010). The SLIP participants came to understand that they need a team of colleagues who can learn together, and as a leader, they must create a learning environment that meets the varied learning needs of students to succeed in today’s global society (Lindsey, Robins and Terrell, 2009). Since this is the intended outcome for the schools where a principal will lead, it was our goal to design and establish an induction program to prepare novices for the role and responsibilities of lead principal or culturally competent, instructional leader.

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Analysis of the Student Market for Chipotle Mexican Grill

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Abstract
To determine if a local market for Chipotle Mexican Grill existed, we surveyed 385 university students, analyzed data using relevant statistical methods, and developed recommendations.

Introduction
We chose Chipotle Mexican Grill as our client for this research, after noting that despite its immense national popularity with college students, its closest location to UWG was an hour away. Our research targeted the student body’s general desire to have a Chipotle location nearby and their perceptions of and preferences for aspects of a potential nearby location. With the conclusions we have drawn from our following research, we hope to persuade Chipotle management to open a location in Carrollton, Georgia (the location of UWG) and offer them suggestions as to how this location could attract the most student customers.

Methodology
Our questionnaire had two main parts: 6 demographic questions, and 9 questions concerned with individual opinions on aspects of Chipotle. The demographic portion allowed us to identify different sections within our sample and determine that our sample was representative of the UWG student population. The portion that dealt with individual opinions helped us determine whether or not the student population’s demand for Chipotle was strong enough to merit opening a location in Carrollton, and what aspects of service a nearby location would need to focus on in order to be competitive. To administer our survey, we set up a booth in a high-traffic area on campus and had two games as attractions. After completing our questionnaire, participants had the option to play the games and win candy prizes (see Appendix). After collecting 385 completed surveys, we analyzed them with the Statistical Package for the Social Sciences (SPSS).

Analysis

1. Data Summary: Several key conclusions are provided here. Testing our sample demographic proportions against official university proportions at the 0.01 level of significance, we found that our Male, Female, African-American, White, Freshman, Sophomore, Junior, and Age proportions within our sample were all representative of the undergraduate population. The proportion of Seniors was not representative due to the fact that the location in which we gathered surveys held mostly Freshman/Sophomore classes. Also, 99.7 percent of the participants in our survey were students at UWG. We therefore consider the following tests and conclusions to be relevant in terms of the UWG undergraduate population. The majority of our sample had previously eaten at Chipotle (65.5 percent), and 84 percent Strongly Agreed or Agreed that they would like to have a Chipotle location nearby, with a mean of 4.39 on a five-point Likert scale that was significantly greater than 4.0 at the 0.05 level. Seventy percent said they would eat at Chipotle 1-2 or 3-5 times per month, and only 3 percent said they would not eat at Chipotle at all. We found that participants gave Chipotle the highest average rating out of ten restaurants, and when we tested Chipotle’s average rating against that of the next highest restaurant rating (Chick-Fil-A), we found that Chipotle’s average rating was higher at the 0.007 level of significance. The farther a potential Chipotle location is from the UWG campus, the fewer the amount of students that are willing to travel to eat there; to attract 68.6 percent of our sample, Chipotle would have to open a location no more than 5 minutes driving from campus. Once moved to 10 minutes away, only 39.1 percent were willing to make the trip. Only 46.5 percent of our sample Strongly Agreed or Agreed that Chipotle’s...
current pricing was fair, with a mean of 3.28 on a five-point Likert scale that was significantly greater than 3.0 but significantly less than 4.0. This implies a need for discounts. A possible solution might be found in the responses to the next question: 73.4 percent of our sample Strongly Agreed or Agreed that they would want the option to spend their Dining Dollars at Chipotle, with a mean of 4.1 on a five-point Likert scale that is significantly greater than 4.0. (Dining Dollars are a portion of student’s meal plans that are usually purchased at the same time as a meal plan. They can also be added online at any time of the year. These funds can be spent at any participating location. The appeal is that it greatly expands a student’s dining options without paying anything out of pocket.) We found that 75.8 percent of our sample was unaware of Chipotle’s GMO labelling controversy2 at the time of taking the survey; when asked if knowledge of this controversy made them not want to eat at Chipotle, 56.4 percent were neutral and 32.4 percent Strongly Disagreed or Disagreed, making a total of 88.8 percent who were not affected by the controversy. The mean response was 2.7 on a five-point Likert scale and is significantly less than 3.0. (We took our sample before the E. coli outbreak, otherwise we would have surveyed for responses to that as well.)

2. T-Tests of Differences Between Means: We used SPSS to perform t-tests on our numerical variables to determine if there were any demographic or other segments within our sample. We found that African-Americans had significantly higher responses than Whites for Q8 (the desire to have a Chipotle nearby), Q9 (the amount of times they would eat at Chipotle per month), Q10.1 (the rating out of 100 for Chipotle), and Q13 (the desirability of spending Dining Dollars at Chipotle), showing that within our sample African-Americans have an overall better perception of Chipotle than Whites. On the other hand, Whites gave significantly higher responses than African-Americans for Q10.0, the rating out of 100 for Chick-Fil-A. We found that participants who had previously eaten at Chipotle had a significantly better perception of it than those who had not, while those who had not previously eaten at Chipotle gave significantly higher ratings to restaurants other than Chipotle. This implies that eating at Chipotle once creates a preference for continuing to eat there. This implication was further stressed when we found that participants who were previously aware of the GMO controversy had a significantly better impression of Chipotle than those who were not aware of it. This surprising finding suggests that being more familiar with Chipotle (i.e. familiar enough to be interested in news of controversy) creates a better perception of it, despite controversy. This is touched on more fully in the Chi-Squared section.

3. Correlations (Bivariate Associations Between Variables): We note that Q8 (desire to have a Chipotle nearby), Q9 (times participant would eat at Chipotle per month), Q10.1 (rating out of 100 for Chipotle), Q12 (perception of current Chipotle pricing) and Q13 (desirability of spending Dining Dollars at Chipotle) all tend to increase together; i.e. they all have at least a weak positive correlation with each other. We attribute this to a halo effect (if a consumer likes one thing about Chipotle, they are likely to also like other things about it). Based on this observation, we consider these five variables to make up the best image we have of a participant’s overall impression of Chipotle; when we refer to the overall impression of Chipotle in this paper, we are referring to these five variables. We will discuss this further in the Regression Analysis section. As Q12 (perception of current Chipotle pricing) becomes more positive, so does Q13 (desirability of spending Dining Dollars at Chipotle). This suggests that even among students who do approve of current pricing, there is still a desire for some form of discount, in the form of Dining Dollars or a comparable offering. As ratings out of 100 for Papa John’s/Domino’s (Q10.6), Subway (Q10.7), and Zaxby’s (Q10.9) increase, Q15 (negative effect of knowledge of the GMO controversy) decreases, meaning that the negative effect becomes larger. Since the restaurant ratings were placed before the GMO controversy question on our surveys, we can hypothesize that many of those who were negatively affected by the controversy had a bias against Chipotle from the outset. We note that increases in the rating out of 100 for Chipotle (Q10.1) cause all of the other restaurant ratings to significantly decrease, with the exception of Chick-Fil-A, which we might consider to be Chipotle’s biggest competitor in the area. See the table below for correlation values.

SEE TABLE 1

4. Chi-Squared (Bivariate Associations Between Variables): We conducted a Chi-Square Test for Independence between Q7 (Previously Eaten at Chipotle or Not) and Q14 (Aware of GMO Labelling
With a Chi-Square value of 9.854 and Significance at the 0.002 level (see tables below), we conclude that there is a relationship between Q7 and Q14. The analysis also reveals some other interesting information. We note that about 80 percent of those who were aware of the controversy had previously eaten at Chipotle, while only about 60 percent of those who were not aware of the controversy had done so. Although the sample of those that were aware of the controversy is fairly small (81), this suggests that having knowledge of the controversy is related to having previously eaten at Chipotle. This seems to make sense, because if a participant has previously eaten at Chipotle, one would think that they would also be more exposed to (or more interested in news regarding it.

SEE TABLE 2

We then conducted a Chi-Square Test for Independence between Q7 (Previously Eaten at Chipotle or Not) and Q11 (How Far Participants Would Be Willing to Travel to Eat at Chipotle). With a Chi-Square value of 10.075 and Significance at the 0.002 level, we conclude that there is a relationship between Q7 and Q11 (see tables below). We also note that 70.5 percent of those who had previously eaten at Chipotle would also be willing to drive to Chipotle; this is almost the same as the proportion of participants who said that they would be willing to drive to Chipotle (68.7). This suggests that almost all of the people who would be willing to drive to Chipotle have also eaten there in the past.

SEE TABLE 3

We then conducted a Chi-Square Test for Independence between Q7 (Previously Eaten at Chipotle or Not) and Q2 (Race). With a Chi-Square Value of 9.271 and Significance at the .01 level, we conclude that there is a relationship between Q7 and Q2 (see tables below). We also note that almost 70 percent of Blacks or African-Americans have eaten at Chipotle in the past, while only about 60 percent of Whites have done so.

SEE TABLE 4

5. Regression Analysis (Multivariate Associations Between Variables): In our first regression, we have successfully explained 33.1 percent of the variance in the dependent variable, Desire to Have a Chipotle Nearby (Q8). The regression as a whole is significant at the 0.000 level (see Model Summary table below).

SEE TABLE 5

The final regression equation from the Coefficients table above is:

Desire to Have a Chipotle Nearby =  
0.318 (Times Participant Would Eat at Chipotle Per Month) + 
0.212 (Perception of Current Chipotle Pricing) + 
0.166 (Chipotle Rating – Adjusted) + 
0.098 (Perception of Option to Spend Dining Dollars at Chipotle)

From this test we conclude that for every 1-point increase in Q8 (Perception of Chipotle Location Nearby), there are proportional increases in Q9 (Times Participant Would Eat at Chipotle Per Month), Q12 (Perception of Current Chipotle Pricing), Q10.1 (Chipotle Rating – Adjusted), and Q13, (Perception of Option to Spend Dining Dollars at Chipotle), in descending order. This agrees with our t-test and Correlation findings.

In our second regression, we have successfully explained 45.1 percent of the variance in the dependent variable, Times Participant Would Eat at Chipotle Per Month (Q9). The regression as a whole is significant at the 0.000 level (see Model Summary table below). The final regression equation from the Coefficients table below is:

Times Participant Would Eat at Chipotle Per Month = 
0.263 (Perception of Chipotle Location Nearby) + 
0.356 (Chipotle Rating – Adjusted) + 
0.160 (Perception of Current Chipotle Pricing) + 
0.141 (Moe's Rating – Adjusted) + 
0.116 (Perception of Option to Spend Dining Dollars at Chipotle) +
From this test we conclude that for every additional time a participant would eat at Chipotle, we see a proportional increase in: Desire to have a Chipotle nearby, rating out of 100 for Chipotle and for Moe’s, perception of current Chipotle pricing, and desirability to spend Dining Dollars at Chipotle. We also observe a decrease in the negative effect of the GMO controversy, and that participants of younger ages would eat at Chipotle more often. This agrees with our findings in the t-test and Correlation sections.

Conclusions

1. Tests of our six demographic variables—Gender, Race, Student at UWG or Not, Live On or Off Campus, Student Status, and Age—against population values provided by the university revealed that our sample was, for the most part, representative of the UWG undergraduate student body. The only proportions that did not match up were those for Seniors and students who Live On or Off Campus, but these are understandable due to limitations caused by the location in which we administered surveys. Therefore, all of the following conclusions can be seen as relevant in terms of the total undergraduate population.

2. Throughout our tests, Q8 (Perception of Chipotle Location Nearby), Q9 (Times Participant Would Eat at Chipotle Per Month), Q10.1 (Rating Out of 100 for Chipotle), Q12 (Perception of Current Chipotle Pricing), and Q13 (Perception of Option to Spend Dining Dollars at Chipotle) seemed to form a group. They all increased together in the Correlation and Regression sections, and in the t-test section, sample segments who gave higher ratings to one of these variables also tended to give higher ratings to the other four. Considering this to be a manifestation of the halo effect, we have concluded that these five variables provide the best indicator of a generally positive perception of Chipotle. This is further reinforced by the fact that the Negative effect of the GMO Controversy (Q15) and the other restaurant ratings all decrease as these five variables increase. Throughout the rest of these conclusions, when we refer to the general perception of Chipotle, we are referring to these five questions.

3. With the Data Summary of Q8 (Perception of Chipotle Location Nearby) alone, we can see that there is a strong desire among the student body to have a Chipotle nearby; 84 percent Strongly Agree or Agree that they would like a location nearby, with a mean response of 4.39 out of 5.0. This conclusion is further reinforced by our finding that the mean response is significantly greater than 4.0. In terms of segments among the sample, we found that Black or African-American participants had a significantly greater desire to have a Chipotle nearby. Participants who had previously eaten at Chipotle, participants who would eat at Chipotle 5-10+ times per month, and participants who would eat at Chipotle even if they had to drive there also had a greater desire to have a location nearby. Correlation and Regression tests reveal that as answers to Q8 increase, so does the overall positive perception of Chipotle (in terms of Q9, 10.1, 12, 13, and 15), while ratings for other restaurants decrease.

4. Looking solely at the Data Summary for Q9 (Times Participant Would Eat at Chipotle Per Month), we see that the majority of students would eat at Chipotle 1-2 or 3-5 times per month, with the mean value falling in the 3-5 range. Coupled with the fact that only 3.1 percent said they would not eat there at all, we conclude that if a Chipotle location were to open nearby, it would receive a heavy volume of customers from UWG. Black or African-American participants and participants who would be willing to drive to Chipotle would eat there more often. Participants who would prefer to eat at Chipotle 0-5 times per month give higher ratings to other restaurants and are more discouraged by the knowledge of Chipotle’s GMO controversy. Participants who would eat at Chipotle 5-10+ times per month have a better general perception of Chipotle.

5. Analysis of our ten different restaurant ratings, although tricky, did yield some interesting results. First and foremost, the mean rating for Chipotle is significantly higher than that of Chick-Fil-A, the next highest mean rating. This suggests that Chipotle’s rating is the highest out of all the restaurants, which shows a generally positive attitude towards Chipotle. The fact that it has the second highest mean rating suggests that Chick-Fil-A would be Chipotle’s main competitor in the area; this is reinforced in the Correlations section by the fact that the rating for Chick-Fil-A is the only restaurant rating that does not
decrease as Chipotle’s rating increases. White participants gave a significantly higher rating to Chick-Fil-A than Black or African-American participants; this suggests that if a Chipotle location opened nearby, they would be competing with Chick-Fil-A not only for customers, but for White customers especially.

Another interesting result is that ratings for Papa John’s/Domino’s and Chinese increase together, suggesting that they appeal to students in similar ways—perhaps in terms of affordability and catering.

6. From the Data Summary of Q11 (How Far Participants Would Be Willing to Travel to Eat at Chipotle), it is clear that the closer a potential Chipotle location is to the UWG campus, the more student customers it will receive, with an on-campus location appealing to almost 100 percent of students. We also found that students who would only eat at Chipotle if it was within walking distance gave higher ratings to three other restaurants, while those participants who would be willing to drive to eat at Chipotle had a better general perception of Chipotle.

7. Looking at the Data Summary of Q12 (Perception of Current Chipotle Pricing), we find that 46.5 percent, less than half, of our participants Strongly Agree or Agree that Chipotle’s current pricing is about right. This and the mean response of 3.28 is indicative of a lukewarm response to Chipotle’s current pricing. Although this mean rating is higher for participants who had previously eaten at Chipotle, and the mean increases with the general perception of Chipotle, this low amount of approval is still a cause for worry.

8. The Data Summary for Q13 (Perception of Option to Spend Dining Dollars at Chipotle) shows a strong positive lean; 73.4 percent of participants Strongly Agree or Agree that they would like to have the option of spending their Dining Dollars at a nearby Chipotle. The mean value was 4.1, which we found to be significantly greater than 4.0. Blacks or African-Americans had a higher mean value than White participants. Also, participants who live on campus and Freshmen/Sophomores had higher mean values; since most Freshmen are required to live on campus and therefore more likely to depend on meal plans that include Dining Dollars, this finding makes sense.

9. More than half of the responses to Q15 (Perception of Effect of GMO Controversy of Wanting to Eat at Chipotle) were Neutral. Adding this to the 32.4 percent that Strongly Disagreed or Disagreed that the controversy made them not want to eat there, we can conclude that 89 percent of our sample is not affected by the controversy. Also, we determined that the mean response of 2.66 was significantly less than 3.0. This is positive, but we must also consider the 11.2 percent that indicated that they would not eat at Chipotle with knowledge of the controversy. Also, the 56.4 percent of neutral responses could be interpreted as uncertainty about the issue. These factors are certainly a cause for concern. On a more positive note, we also found that those who would eat at Chipotle fewer times (0-5) per month also gave a higher mean response for this question. We also see in the Correlation section that as the negative effect of knowledge of this controversy increases, so do the ratings for three restaurants, Chipotle not being among them. Since the questions for Times Participant Would Eat at Chipotle Per Month and Restaurant Ratings were placed before the one about the GMO controversy on our survey, we can postulate that perhaps those who were negatively affected by the controversy had a bias against Chipotle before taking our survey.

10. While going through our previous findings, we found some evidence that seemed to suggest that having previously eaten at Chipotle creates a strong preference for continuing to eat there. Our first indication of this was when we found that participants who had previously eaten at Chipotle not only had a better perception of Chipotle in general, but also gave higher ratings to Moe’s, which serves similar food. Also, those who had not previously eaten at Chipotle gave significantly higher ratings to four other restaurants than those who had. We then discovered that participants who had heard of the GMO labelling controversy also had a better overall perception of Chipotle. If participants who had previously eaten at Chipotle also were more likely to have knowledge of the controversy, then we could conclude that those who had heard of the controversy had a better perception of Chipotle because they were more familiar with it (hence supporting the hypothesis that having eaten there previously creates a preference for it). We conducted a Chi-Square test and found that there is, in fact, a relationship between having eaten at Chipotle previously and having heard of the controversy; about 80 percent of those that were aware of the controversy also had eaten at Chipotle previously. We conducted two more Chi-Square tests and found
that having eaten at Chipotle previously is also related to race and distance participants would be willing
to travel to eat at Chipotle. About 70 percent of those who had eaten at Chipotle in the past also said that
they would be willing to drive to Chipotle; the proportion of students who would be willing to drive to
Chipotle is also about 70 percent. Also, we found in our t-tests that Black or African-American
participants had a significantly higher general perception of Chipotle than Whites; our Chi-Square test
revealed that almost 70 percent of Blacks or African-Americans had eaten at Chipotle in the past, while
only about 60 percent of Whites had done so. The results from our t-tests, Correlations, Regressions, and
Chi-Square analyses lead us to conclude that having previously eaten at Chipotle creates a strong
preference for continuing to eat there, despite controversy.

Recommendations

Having fully analyzed our data, we make the following recommendations based on our conclusions:

1. Management should open a Chipotle location in Carrollton.

2. We would recommend a location no more than 5 minutes driving from the UWG campus, in order to
attract more that 50 percent of students. Management should attempt to place a location as close to
campus as possible; it will attract more student customers the closer it is to campus.

3. We recommend that management implement marketing strategies to combat competition from local
competition, particularly Chick-Fil-A.

4. Considering that Chipotle has a stronger footing in the UWG African-American population, we would
recommend a greater focus on winning over White students, who seem to have the most positive
perception of Chick-Fil-A.

5. Noting that Chipotle’s biggest potential competitors offer low prices, student discounts, incentives, the
option to use Dining Dollars, and catering, we recommend that a potential Chipotle location find ways to
offer all of these options to students.

6. With the strong indication that eating at Chipotle once creates a strong preference for continuing to eat
there, we would advise that management, if they choose to open a location in Carrollton, hold a large
“grand opening” event with significant discounts and incentives for students. This is likely to create an
even stronger preference among the student body for eating at Chipotle.

7. Since the GMO labelling controversy turned more than 10 percent of our sample away from Chipotle,
we suggest that management take marketing strategies against the GMO and more recent E. coli
controversies. Also, since over 50 percent of our sample responded neutrally to the effect that the
controversy had on their desire to eat at Chipotle, it is possible that the E. coli outbreak may have pushed
many of our neutral responses to the negative; we therefore reinforce our stance that combative marketing
strategies are necessary.

8. Due to Chipotle’s recent controversies, management may wish to consider waiting until news
surrounding them has died down before opening a location in Carrollton. However, it is true that the
GMO controversy had little negative effect on our population. Also, the fact that eating at Chipotle once
creates a strong preference for continuing to eat there indicates that a large portion of the UWG student
body is already brand-loyal to Chipotle, and that new customers are likely to become brand-loyal as well.
We therefore leave the decision on this matter at management’s discretion.

Limitations

1. Due to the nature of our data-gathering method—setting up a table in a high-traffic area and asking
passers-by to fill out surveys—our sample is essentially a convenience sample, not a truly random
sample, and hence is not as accurately representative of the population as it would be if we had created
and surveyed a random group of students. For example, due to our location, we were not able to survey as
many seniors as we needed to have a percentage in proportion to the actual population.

2. We initially set out to gather 385 surveys, because we concluded from our statistical calculations that
this was the minimum number necessary to ensure that our sample percentage values differed from
population values by no more than five points. However, several participants skipped or did not see some
of our questions, meaning that we had less than 385 valid, fully completed surveys. Had we foreseen this
possibility, we would have attempted to gather 400 or more.
3. In filling out Question 10 on our questionnaire (restaurant ratings with a constant sum of 100), many participants misinterpreted our instructions. Instead of putting down ten values that added up to 100, a large number gave percentage ratings for each restaurant, resulting in a sum far more than 100. When coding our data, we had to adjust these values in order to perform valid calculations. Although we are fairly certain that the adjusted values accurately represent the participants’ opinions, there is still the possibility that these values are slightly off.

4. Question 11 on our questionnaire asks how far participants would be willing to travel to eat at a potential Chipotle location; however, we neglected to include an option for not eating at Chipotle at all, no matter how far away it was. Since responses to Question 9 showed that only 3.12 percent of our sample would eat at Chipotle zero times per month, we doubt that this oversight creates a significant issue, but we do recognize that we would have been able to make a more significant statement for Chipotle if we had gathered this data.

References
## TABLE 1

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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 28.77.
b. Computed only for a 2x2 table

### TABLE 3

**Q7: Previously Eaten at Chipotle or Not * Travel Grouped into Walking and Driving Crosstabulation**

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<th>Q7: Previously Eaten at Chipotle or Not</th>
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<td>58.3%</td>
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#### Chi-Square Tests

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a. 0 cells (0.0%) have expected count less than 5. The minimum expected count is 41.34.
b. Computed only for a 2x2 table
TABLE 4
Q7: Previously Eaten at Chipotle or Not * Race (With Values Under 6% Condensed) Crosstabulation

<table>
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<th>Race (With Values Under 6% Condensed)</th>
<th>Asian, Hispanic or Latino, American Indian or Alaska Native, Multiracial, and Native Hawaiian or Other Pacific Islander White Total</th>
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<tr>
<td>Black or African-American</td>
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Chi-Square Tests

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a. 0 cells (.0%) have expected count less than 5. The minimum expected count is 16.67.
### Model Summary: Desire to Have a Chipotle Nearby (Q8)

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<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>.576&lt;sup&gt;d&lt;/sup&gt;</td>
<td>.331</td>
<td>.324</td>
<td>.65076</td>
</tr>
</tbody>
</table>

<sup>d</sup> Predictors: (Constant), Q9: Times Participant Would Eat at Chipotle Per Month, Q12: Perception of Current Chipotle Pricing, Q10.1: Chipotle Rating - Adjusted, Q13: Perception of Option to Spend Dining Dollars at Chipotle

### Coefficients<sup>a</sup> for Desire to Have a Chipotle Nearby (Q8)

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>(Constant)</td>
<td>3.048</td>
<td>.169</td>
<td>18.007</td>
</tr>
<tr>
<td></td>
<td>Q9: Times Participant Would Eat at Chipotle Per Month</td>
<td>.076</td>
<td>.013</td>
<td>.318</td>
</tr>
<tr>
<td></td>
<td>Q12: Perception of Current Chipotle Pricing</td>
<td>.165</td>
<td>.035</td>
<td>.212</td>
</tr>
<tr>
<td></td>
<td>Q10.1: Chipotle Rating - Adjusted</td>
<td>.006</td>
<td>.002</td>
<td>.166</td>
</tr>
<tr>
<td></td>
<td>Q13: Perception of Option to Spend Dining Dollars at Chipotle</td>
<td>.082</td>
<td>.037</td>
<td>.098</td>
</tr>
</tbody>
</table>

<sup>a</sup> Dependent Variable: Q8: Perception of Chipotle Location Nearby
### TABLE 5 (CONTD)

**Coefficients for Times Participant Would Eat at Chipotle Per Month**

<table>
<thead>
<tr>
<th>Model</th>
<th>Unstandardized Coefficients</th>
<th>Standardized Coefficients</th>
<th>t</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>B</td>
<td>Std. Error</td>
<td>Beta</td>
<td></td>
</tr>
<tr>
<td>7 (Constant)</td>
<td>-2.705</td>
<td>1.232</td>
<td>-2.196</td>
<td>.029</td>
</tr>
<tr>
<td>Q8: Perception of Chipotle Location Nearby</td>
<td>1.099</td>
<td>.190</td>
<td>.263</td>
<td>5.779</td>
</tr>
<tr>
<td>Q10.1: Chipotle Rating - Adjusted</td>
<td>.057</td>
<td>.007</td>
<td>.356</td>
<td>8.028</td>
</tr>
<tr>
<td>Q12: Perception of Current Chipotle Pricing</td>
<td>.518</td>
<td>.136</td>
<td>.160</td>
<td>3.805</td>
</tr>
<tr>
<td>Q10.5: Moe's Rating - Adjusted</td>
<td>.066</td>
<td>.019</td>
<td>.141</td>
<td>3.518</td>
</tr>
<tr>
<td>Q13: Perception of Option to Spend Dining Dollars at Chipotle</td>
<td>.405</td>
<td>.143</td>
<td>.116</td>
<td>2.839</td>
</tr>
<tr>
<td>Q15: Perception of Effect of GMO Controversy on Wanting to Eat at Chipotle</td>
<td>-.430</td>
<td>.135</td>
<td>-.127</td>
<td>-3.184</td>
</tr>
<tr>
<td>Q6: Age</td>
<td>-.075</td>
<td>.038</td>
<td>-.077</td>
<td>-1.969</td>
</tr>
</tbody>
</table>

a. Dependent Variable: Q9: Times Participant Would Eat at Chipotle Per Month

### TABLE 6

**Model Summary: Times Participant Would Eat at Chipotle Per Month**

<table>
<thead>
<tr>
<th>Model</th>
<th>R</th>
<th>R Square</th>
<th>Adjusted R Square</th>
<th>Std. Error of the Estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>7</td>
<td>.671g</td>
<td>.451</td>
<td>.440</td>
<td>2.47758</td>
</tr>
</tbody>
</table>

g. Predictors: (Constant), Q8: Perception of Chipotle Location Nearby, Q10.1: Chipotle Rating - Adjusted, Q12: Perception of Current Chipotle Pricing, Q10.5: Moe's Rating - Adjusted, Q13: Perception of Option to Spend Dining Dollars at Chipotle, Q15: Perception of Effect of GMO Controversy on Wanting to Eat at Chipotle, Q6: Age
Appendix: Marketing Carnival Methodology

The typical data collection methodology for student projects involves the administration of mail or telephone questionnaires. We used a different and innovative methodology called the Marketing Carnival. In this method, we set up stalls or booths (as in a carnival), which are designed to collect data in an enjoyable way, and thus enabled us to collect 385 completed responses in a single day. Visitors to the fair go to each stall, and play creatively-designed games of skill to win prizes. In the process of doing so, they reveal information (knowingly) about their preferences, which is recorded and later analyzed.

To encourage participation in our survey, we set up a booth in a high-traffic area on campus and had two games as attractions. After completing our questionnaire, participants had the option to play the games and win candy prizes. The first game, simply called Ball Toss, consisted of a wooden box with five holes cut into a slanted top. These holes were labeled with the answers to Question Nine on our questionnaire as shown in the sketch. Respondents aimed their throws at the answer that they selected on the questionnaire. The second game was called Target Practice, which was set up with painted targets labeled with the answers to Question 12 on our questionnaire. Participants were given a small popgun and aimed their shots at the target that displayed the answer that they selected on the questionnaire.
Systematic Literature Review of Community-Based Interventions for Diabetes Self-Management

Praphul Joshi, Jill Killough
Lamar University

Abstract
Type 2 diabetes is a significant problem in Southeast Texas and nationwide leading to millions of deaths and disabilities each year. The disease adversely affects populations in low socio-economic status and ethnic minorities. Community-based participatory research (CBPR) has proven to be an effective approach in implementing culturally competent educational interventions to prevent chronic diseases. However, few studies document implementing diabetes self-management interventions using a CBPR approach in diverse communities. The purpose of this study is to develop culturally competent interventions for diabetes self-management in Southeast Texas based on systematic literature review. We analyzed studies that were easy to implement and were conducted in populations that had similar demographics.

Introduction
Types 2 Diabetes Mellitus (DM) afflicts an estimated 29.1 million Americans and of those 8.1 million are undiagnosed (Centers for Disease Control [CDC], 2014). In addition to diabetes, there are a large percentage of adults who are living with pre-diabetes. Pre-diabetes is defined as a condition with fasting glucose and/or glycated hemoglobin levels greater than normal, but not meeting the diagnosis criteria of diabetes (Tabak, Herder, Rathmann, Brunner, & Kivimaki, 2012). Based on fasting glucose or A1C levels in 2009-2012, it was determined 37% of United States (U.S.) adults aged 20 years or older had prediabetes (CDC, 2014). In a recent study, it was determined the prevalence of diabetes increased in the overall population as well as in all subgroups evaluated between the years 1988-1994 and 2011-2012 (Menke, Casagrande, Geiss, & Cowie, 2015). Diabetes represents an epidemic chronic health condition.

Diabetes was the fifth leading cause of death in the U.S. in 2012, although many more people die with diabetes due to other complications such as cardiovascular diseases (Heron, 2015). As the incidence and prevalence of diabetes continues to rise, the burden of the disease impacts the U.S. healthcare system. In 2012, diabetes associated cost in the U.S. was an estimated $245 billion (CDC, 2015). In addition, diabetes can lead to renal failure, amputation, and blindness (CDC, 2014).

Similar to the U.S., diabetes is a significant health concern in Texas. In 2013, the age-adjusted rate per 100 adults diagnosed with diabetes in Texas was 10.9 which equates to roughly 2.1 million people (CDC, 2013). As in the U.S., the prevalence trend for this chronic health condition continues to increase in Texas. The geographic distribution of those diagnosed with diabetes in adults is highest in the Southeast location of the U.S. The “Diabetes Belt” is identified as 644 counties in 15 states of which Texas is included (CDC, 2015).

Context
Health-related outcomes of this chronic disease are related to differences in self-management education (Joshi, Pourciau, Bhoi, & Kinchen, 2013). Diabetes self-management education (DSME) is the process of the patient actively managing diabetes (Powers et al., 2015). By teaching those living with diabetes and pre-diabetes to better self-manage their condition, reduction of diabetes-related complications can occur. Improvements in diabetes-related outcomes through DSME have also shown to be cost effective in reducing hospital readmissions (Healy, Black, Harris, Lorenz, & Dungan,
Community-based participatory research (CBPR) approach is a cooperative effort that involves all community partners in a collaborative research process (Cene et al., 2013). The aim of utilizing a CBPR approach is the process begins with an important community problem in efforts to combine knowledge and action to improve disparities (Minkler, 2005). The key elements of CBPR are described in Table 1.

CBPR prioritizes the community in research design: the community is involved in developing research questions and methods; collecting data; analyzing data; and writing publications and disseminating data. CBPR is not simply a research method—it is a philosophy about how research should be conducted so that community needs are prioritized.

The values, beliefs, and practices of an ethnic or racial group within a particular community can influence a study subject’s acceptance and adherence to health messages provided by researchers and clinicians. Several socioeconomic issues, including lack of formal education, low income, racial/ethnic discrimination, neighborhood crime, lack of health insurance coverage, and limited access to healthy foods, contribute to health disparities in underserved communities. Lack of transportation, safety concerns, and cost, as well as social deterrents may prevent at-risk individuals from participating in DSME programs. Hence, a population health approach that includes social and environmental changes may be very effective in promoting healthy living. CBPR can dispel mistrust within the community and provide a sense of community ownership for health prevention programs.

**Aims/Objectives**

Literature examining interventions in diabetes care is extensive and offers a wide variability in types of interventions ranging from medication to web-based self-management tools with varying impact on diabetes outcomes. However, there is limited literature pertaining to DSME interventions in low-income communities. The goal of this study was to identify community-based interventions targeting DSME that are easy to implement based on existing literature. The expected outcome of this literature review is to implement a DSME intervention in Southeast Texas using a CBPR approach.

**Methods**

A structured meta-analysis was conducted using a literature search based on established criteria. The sources for data included PubMed and Ebsco, the most widely used datasets for published literature in public health. The search included keywords and Mesh-terms to identify appropriate studies. These included “type-II diabetes CBPR, self-management and interventions”. Based on the study goals and objectives a list of inclusion and exclusion criteria was established to refine the search process as shown in the PICOS table (Table 2). All articles generated using the Mesh-terms that were published between the years 2000 through October 2015 were screened. Upon obtaining an initial list of studies, abstracts were independently screened by two researchers on a spreadsheet. The spreadsheets for initial screenings were merged to obtain the final set of articles that were included for the final discussion.

**Results**

The initial search for the articles using Mesh-terms outlined earlier yielded 38 articles from Ebsco and 32 articles from PubMed. Upon re-matching for PICOS criteria and deleting duplicate entries, a final set of 31 articles were included for the initial screening process. Upon completing the initial screening, the two researchers agreed on including 4 articles for the final review and discussion. The most-common factors used for excluding the initial set of studies were: rural settings, exclusively immigrant populations, and only church-based interventions.

**Summary of Key Findings**

All four studies included an educational intervention based on CBPR approach. Prior to facilitating the sessions, team members received training in qualitative methods, including conducting mock focus groups and interviews followed by feedback. All four studies indicated the need to include a peer-led educator (community health worker - CHW) as well as a community advisory board (team approach). Table 3 represents the summary of key findings from the selected group of studies for this review.
Barriers / Challenges

Participants recognized key aspects of diabetes self-management but experienced difficulties in implementing these strategies, particularly with diet modification. Lack of access to healthful foods was identified as a barrier to eating healthful foods. Stress was also perceived as a barrier to good self-management. Participants described stress related to work, caregiver responsibilities, and diabetes itself. Limited access to resources and transportation problems also emerged as barriers to self-management. Individuals typically do not use traditional health promotion resources, however, community centers or churches are available in almost every community and CBPR can be utilized to implement interventions in these communities.

The CHWs reported that they experienced increased confidence in their ability to educate patients and members of their community. Improvements in CHW diabetes-related knowledge was observed as a result of structured training sessions on basic diabetes knowledge and self-management strategies. After completing the training, the CHWs were equipped to provide additional educational sessions in diverse settings.

Discussion

CBPR can serve as a bridge among community members, government representatives, and academic researchers. A required element of CBPR is a strong and ongoing relationship among key community organizations and academic researchers. Researchers should foster with community organizations lasting relationships that have the potential to extend over multiple research studies. Cultural adaptation of empirically tested and complex interventions needs to be evaluated to ensure retention of efficacy of the intervention when applied to real-life settings. Fully engaged CBPR approaches warrants further examination as a potential tool for translating evidence-based studies into public health practice, especially among high-risk minority communities.

Commonly described barriers to control include individual, clinician, and systems problems. More recently, investigators have described environmental factors such as living in a neighborhood with poorer safety, walkability, social cohesion, and food availability that correlate with a higher prevalence of diabetes

Future Directions

It is the position of the American Diabetes Association that all individuals receive DSME upon initial diagnosis and then as needed (American Diabetes Association, 2015). Formal programs offered through healthcare facilities have historically been the avenue in which DSME has been delivered (Powers et al., 2015). However, alternative and convenient settings such as community health centers are becoming more available.

Social economic status (SES) can be a barrier to accessing healthcare facilities offering DSME. There is evidence the social status of individuals with diabetes as well as characteristics of the communities they live in may determine their mortality risk and complications related to diabetes (Brown et al., 2004). Lower SES is connected with factors known to contribute to health disparities, these include reduced access to and underuse of recommended care. Transportation difficulties and limited resources have been described as barriers to self-management (Richardson, 2015).

A CBPR approach can be utilized to engage the community in developing strategies to implement a tailored DSME. There is also a need to actively involve healthcare providers in the process to effectively implement a DSME program as well as assemble community resources to provide the guidelines (Appiah et al., 2013). Based on these findings we are proposing a qualitative study to assess community needs and build an advisory board to drive DSME interventions in Southeast Texas. Future studies should evaluate the outcomes of CBPR-driven interventions in diverse communities.

References


Table 1: Characteristics of CBPR

<table>
<thead>
<tr>
<th>Characteristics of CBPR</th>
</tr>
</thead>
<tbody>
<tr>
<td>Community members and researchers contribute equally and in all phases of research</td>
</tr>
<tr>
<td>Trust, collaboration, shared decision making, and shared ownership of the research; findings and knowledge benefit all partners</td>
</tr>
<tr>
<td>Researchers and community members recognize each other’s expertise in bidirectional, co-learning process</td>
</tr>
<tr>
<td>Balance rigorous research and tangible community action</td>
</tr>
<tr>
<td>Embrace skills, strengths, resources, and assets of local individuals and organizations Community recognized as a unit of identity</td>
</tr>
<tr>
<td>Emphasis on multiple determinants of health</td>
</tr>
<tr>
<td>Partners commit to long-term research relationships</td>
</tr>
<tr>
<td>Core elements include local capacity building, systems development, empowerment, and sustainability</td>
</tr>
</tbody>
</table>

Table 2: PICOS Table for Diabetes Self-Management Literature Review

<table>
<thead>
<tr>
<th>PICOS</th>
<th>Eligible</th>
<th>Ineligible</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population</td>
<td>Adults &gt; 18 years Type-II diabetes Urban / sub-urban Labor pain / Pregnancy-related Dental Pain (excluding TMJ pain) Co-existing morbidities (patients with heart disease and other conditions)</td>
<td></td>
</tr>
<tr>
<td>Intervention</td>
<td>Educational tools Self-management Community-based</td>
<td>Exclusively drug regimens Invasive treatments Clinical-based interventions</td>
</tr>
<tr>
<td>Comparison</td>
<td>Self-management v/s no self management</td>
<td>N/A</td>
</tr>
<tr>
<td>Outcomes</td>
<td>DSM behaviors General health Functional ability</td>
<td>Only clinical measures</td>
</tr>
<tr>
<td>Study Design</td>
<td>Randomized control studies Quazi-experimental</td>
<td>Observational Case-control No primary data presented</td>
</tr>
<tr>
<td>Study</td>
<td>Target Population</td>
<td>Setting / Intervention</td>
</tr>
<tr>
<td>-------------</td>
<td>-------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Valen 2012</td>
<td>Hispanic migrant workers</td>
<td>Community health workers</td>
</tr>
<tr>
<td>Austin 2011</td>
<td>African American community</td>
<td>Health Ministry / Peer-educator</td>
</tr>
<tr>
<td>Dodani 2009</td>
<td>African American community</td>
<td>Church-based interventions through health advisors</td>
</tr>
<tr>
<td>Richardson 2015</td>
<td>African American women</td>
<td>Community health workers</td>
</tr>
</tbody>
</table>
Students with Mathematics Difficulties: 
Adding Critical Pedagogy and Technology to Explicit Instruction to Increase 
Achievement.

Elisheba Kiru
The University of Texas at Austin

Abstract
The 21st century continues to be defined by rapid changes in the economic, political, social, and cultural landscape. These changes have been fueled by the advancement of technology advancement, and the increased need for knowledge-based skills. Within this backdrop, educational reforms in the U.S. continue to place increased demands on educators to improve students’ performance, especially in mathematics. With increasing technological innovations, changes in pedagogical approaches when integrating information and communication technologies (ICTs) are crucial. This paper highlights the effects of ICT on mathematics learning outcomes for students with mathematics difficulties, and proposes the application of critical pedagogy in conjunction with explicit instruction in inclusive mathematics classrooms with diverse students. Ideally, this approach would benefit students in their schooling life cycle as they develop their identities and beyond the classroom walls as they become lifelong learners. The development of positive learner identities for students with mathematics difficulties can be achieved through the application of evidence-based pedagogical approaches, critical teaching and systematic integration of ICT in classrooms to develop critical thinking skills. Future research is needed on pedagogies that when paired with ICT integration will foster higher level thinking skills and achievement outcomes for students with mathematics difficulties.

Keywords: ICT, computer-assisted instruction, mathematics, mathematics difficulties, k-12, critical pedagogy, critical education, general education classroom.

Mathematics is a core subject critical for all students’ academic and economic success (Nordness, Haverkost, & Volberding, 2011). Rapid changes in globalization around the world has led to increased competition and heightened demand for knowledge-based skills (Friedman, 2005). In the U.S. these changes combined with internationally low rankings in mathematics have fueled education reforms in mathematics (Turgut, 2013). Nonetheless, disappointing results in mathematics proficiency persist. Low and uneven mathematics achievement is especially problematic for many students, but particularly for ethnically diverse students, students from low-income families, and students with mathematics difficulties. There is urgent need for culturally grounded, innovative and empirically supported practices that promote higher levels of inclusion and success in mathematics for these students.

Developing mathematical skills requires the interaction of several cognitive variables (Jitendra, 2013). Isolating the variables responsible for the development of certain mathematical concepts is daunting. Researchers explicate the difficulties involved in identifying the cognitive processes responsible for acquiring a particular mathematical skill (Jitendra, 2013).

In this paper, I propose the pairing of evidence-based interventions such as explicit instruction when incorporating critical teaching and integrating Information and Communication Technologies (ICTs) in mathematics instruction for students with mathematics learning difficulties. This is significant because of
the extensive research on the importance of culturally responsive practices in developing critical, higher order thinking skills and improving overall student achievement. For this paper, ICT is an umbrella term for hand-held technology (e.g., iPads, iPhones) and technology devices such as laptops as well as computer programs. Watson & Bain (2012) posit that technology can reduce the cognitive load for teachers, consequently increasing opportunities for differentiated instruction in the general education classroom. Teachers engage in numerous multitasking activities in the classroom that increases their cognitive load and challenges their capacity to provide individual attention to the varying mathematics needs of students in the classroom.

Kalyuga, Ayres, & Sweller (2003) define cognitive load as the demand on working memory resources for the completion of cognitive tasks. Consequently, cognitive load theory provides a theoretical framework based on knowledge of cognitive functions which include long-term memory and short-term memory (Choi, Merrienboer, & Pass, 2014). Choi et al. add that cognitive load can be categorized as (a) extrinsic cognitive load, (i.e., how information is presented) and (b) intrinsic cognitive load, (i.e., the number of interacting pieces of information). A high cognitive load reduces the capacity of the working memory. Students with mathematics difficulties or students identified with learning disabilities struggle with difficulties in organizing information, demonstrating metacognitive skills, limited working memory, reduced motivation, anxiety, and exhibit varying processing speeds (Geary, 2004; Leh & Jitendra 2012). These students can benefit from a reduction in cognitive load through affordances provided via technology. For instance, technology can reduce the students’ cognitive load as students use visualization tools, cognitive scaffolds, and schematic diagrams. In addition, students can work at their own pace reducing any anxiety that may arise from attempts to keep up with the teacher’s pace which may lead to frustration and negatively impact a student’s learning experience.

Mathematics Instruction in an Era of Reform

In 2010, as part of the reforms initiative, the Common Core State Standards (CCSS) were created, and have been adopted in at least 45 states. CCSS is an ambitious standards-based movement to comprehensively revamp the K-12 education system in the United States (Graham & Harris, 2013). In addition, legislation such as the recently enacted Each Student Succeeds Act (ESSA, 2015) has been put in place to ensure that all students have access to more challenging curricula.

CCSS standards emphasize mathematics fluency in performing simple calculations, deep understanding and application of mathematical concepts and skills (CCSS, 2015). These standards represent a departure from procedural rote memorization, which has characterized previous years. Rather, these standards call for instruction in mathematics that enhances students’ conceptual understanding, inquiry and problem-solving skills. Exposure to instruction that results in deeper understanding and application in mathematics is likely to increase the students’ active participation and motivation of students during instruction and to promote the transfer of these skills across other academic domains. In the long term, students are likely to develop critical thinking and problem solving skills necessary for academic success and later in postsecondary education or employment.

Explicit Instruction for Students with Mathematics Difficulties

The quality of instruction is important in student achievement (Doabler et al., 2015; Leh & Jitendra, 2012; Rowan, Correnti, & Miller, 2002). Fuchs et al. (2008) identified seven principles for effective instruction for students with mathematics learning difficulties. These seven principles include: instructional explicitness, strong conceptual basis, progress monitoring, drill and practice, motivators, cumulative review and instructional design to reduce the cognitive load. Explicit instruction has been found to be effective for students who are low achieving in mathematics (Baker, Gersten, & Lee, 2002; Doabler et al., 2015). Gersten et al. (2009) defined explicit instruction as evidenced through a teacher demonstration of a specific step-by-step plan to solve a problem. Bottge, Rueda, Grant, Stephens, and Laroque (2010), reported that the application of enhanced anchored instruction using rich authentic contexts for instruction on solving fractions improved mathematics outcomes on fractions problem solving for students with low achieving mathematics performance. With the increased pressure on educators and students as a result of high stakes testing, there is an increased focus on test preparation. On the other hand, there is a continued emphasis on basic skill attainment in mathematics, especially in
classrooms with low-performing students which deprives learners of opportunities to develop and apply critical thinking.

Delpit (2012) argued that teachers who recognize their diverse students’ perspectives, strengths, potential, and encourage students to succeed are less likely to perpetuate the stereotypical views of students as deficit, disinterested, and low performing. She argues that teachers need a deep understanding of where their students come from and what knowledge they bring to class. Teachers must learn who their students are—their lived cultures; their interests; and their intellectual, political, and historical legacies. Teachers must then communicate clear, high expectations and hold students accountable for their performance, but also show care and concern. Mathematical practices and discourses should be situated within cultural contexts, student interests and real-life situations (Lambert, 2015; White, Cooper, & Mackey, 2014) where all students develop positive identities as math learners. Instruction in mathematics skills in isolation, devoid of student understanding and identity render them helpless to benefit from explicit instruction.

Thus, my purpose is not to suggest that explicit instruction does not benefit students, but rather to propose that explicit instruction in mathematics teaching must be enhanced by incorporating non-cognitive factors that also promote learning and mastery like motivation, interests, self-efficacy, and culturally responsive teaching. Johnston (2004) posits that teachers play a critical role in developing environments that encourage student identities, agency and independence through discourses and practices in the classroom (Johnston, 2004; Rubin, 2007). Johnston (2004) acknowledges the need for explicitness in instruction, but argues that students who are actively engaged in a contextualized learning process are in control of the learning process. They are able to make connections with past learning experiences, which can be both in school and out of school experiences to foster deeper and more meaningful learning.

Holland, Lachicotte, Skinner, and Cain (1998), define a figured world as a “socially and culturally constructed realm of interpretation” (p. 52), where certain practices, discourses, categories and interactions (Rubin, 2007) are produced and reproduced within such worlds. Within this context, the mathematics classroom is the figured world where students are defined or define themselves as different kinds of mathematics learners. These discursive practices in the figured worlds make it imperative for teachers to perceive a mathematics class as more than a mathematics class (Freire, 2007) and embrace Gutstein’s (2007) challenge of developing critical thinking students who are developing identities and agency to challenge the hierarchies of power and power relations present in society (White, Cooper, & Mackey, 2014). Therefore, the intersection between mathematics reform and instruction for students with mathematics difficulties is an area that needs strategic focus. Studies show that culturally responsive teaching (CRT) practices and tapping students’ funds of knowledge (Moll, Amanti, Gonzalez, 1992) improve student performance. Tate (1995), notes that CRT differs from traditional instruction by challenging the assimilation of students into existing systems and proposes a critical pedagogy, which centers instruction on students’ needs and interests.

Students bring to the classroom experiences and knowledge they have acquired from different environments both in school and out-of school places. Teachers are tasked with building upon students’ knowledge by identifying students’ strengths and areas of need in a transactional exchange. This includes valuing a students’ repertoire of cultural background, language diversity, and learning styles. The author acknowledges that changing traditional instructional methods can be a daunting task. Leonard and Moore (2014) noted that challenging students to use mathematics as an empowering tool can be a challenge in itself and teachers will be tasked to continue developing and delivering creative lessons that engage students’ interests and strengths. One of the ways that teachers can tap into students’ creativity as digital natives is through incorporating educational content with technology. Digital natives are students who have grown up with technology around them (Wade et al., 2013). Technology has shown potential in improving students’ mathematics outcomes and continues to emerge as an innovative medium of content delivery (Caranikas-Walker, Shapely, & Sheehan, 2011; Cihak & Bowlin, 2009; Maloney; Li & Ma, 2010; Weng, Maeda, & Bouck, 2014).

Technology in the Classroom
In 2000, the National Council of Teachers of Mathematics (NCTM) called for the use of inquiry-based approaches and the inclusion of technological tools during math instruction for all students (NCTM, 2000). This is echoed by researchers in the field. For example, Fuchs et al. (2008) highlighted the need for continued attention in technology-rich environments, for the development of problem solving and information literacy skills in real-life settings. Baker, Gersten, & Lee (2002) attested that computers may be valuable in providing targeted mathematics problems for students to solve and in providing performance feedback and recommendations to teachers and students. Studies show that technology use offers certain benefits to students with mathematics learning difficulties through computer-assisted instruction (CAI). CAI refers to the use of a computer to provide instructional content (Seo & Bryant, 2009).

With the dynamic advancement in technology, it is difficult to predict how future classrooms will look. Information and communication technologies (ICTs) will continue to become ubiquitous in students’ lives and ignoring their presence and role in learning experiences will be ill advised. Technological innovations in the classrooms can promote innovative changes in instructional methods by creating what scholars; Tan, Barton, Gutiérrez, & Turner (2012) refer to as “hybrid third spaces” (p. 29). These places provide a space that promotes the development of cultural, social and epistemological change for students’ and teachers.

The ways in which technology is incorporated by teachers or used by students is influenced by their environment as well as strongly held beliefs of teaching and learning. Hasselbring (2001) noted that teachers have to perceive technology differently by acknowledging that providing students with access to technology is inadequate. He highlights the need for greater understanding about the relationship between technology and learning which then fosters innovative instruction. For teachers, technology can be perceived as a tool or it can be perceived as an unnecessary burden with a minimal relative advantage compared to traditional teaching methods that have been tried and tested. Students who have access to technology at school or in out-of-school spaces that facilitate continued use of ICTs will have more exposure to what technology has to offer. To bridge these perceptions and experiences of ICT use between students, teachers and the community, it is imperative that technology is seen as integral in daily living. On the same token, we cannot ignore that ICTs are a piece of an existing pedagogical environment (Steen, 1995), which requires the application of evidence-based practices such as explicit instruction to benefit students with mathematics learning disabilities (Gersten et al., 2009) and culturally relevant pedagogy.

The Need for Cultural and Social Practices in Mathematics Instruction

In a study with pre-service teachers who were struggling with using culturally relevant pedagogy in mathematics classrooms, Ukpokdu (2011) reported that participants viewed mathematics as culturally neutral and universal. This shows that there is a need for a shift from perceiving mathematics as a process-orientation (Skovsmose, 1985) to one that can equip students with mathematical power, elevate passivity of students to increased levels of student participation by deconstructing negative mathematical identities, allow for the development of critical thinking skills and supplement pre-packaged curriculums. Borgioli (2008) challenges mathematics education teachers to engage in critical examination and break the silence on enabling students with mathematics learning difficulties, through traditional views of labels such as mathematics learning disabilities or “at risk”. She argues that these labels legitimize the notion that students carrying them are unable to engage in critical inquiry or beyond the basics mathematics discourse. Also, she attests that it is imperative for teachers to provide all students with opportunities that embrace differences and push them to achieve their potential.

These sentiments were echoed by Lambert (2015), who highlighted the development of individual perceptions by mathematics learners identified with learning disabilities, from one semester to the next, contingent upon the pedagogies applied by the teachers in the classroom. As the mathematics teacher shifted from discussion-based pedagogy to procedural pedagogy, the students developed different identities as mathematics learners based on their interests, strengths and cultural perceptions of mathematics. Her study accentuates the disabling power of social constructs of labels such as learning disabilities and reminds teachers and scholars that a single profile of a mathematics student with learning
disability is non-existent. This challenges teachers to incorporate pedagogies that can develop strong mathematical identities in learners by looking at their ability instead of disability, such as, critical pedagogy.

**Critical Pedagogy in Mathematics Instruction for Students with Mathematics Difficulties**

In conjunction with evidence-based practices, technological innovations will require pedagogical innovations, for instance, the incorporation of critical education through critical pedagogy. Critical education (CE) embraces Freire’s principles, one of which is, “emancipatory pedagogy” which argues that education must be characterized by democratic principles. Critical pedagogy “represents a philosophy of education more than a set of “tried and true” methods that serve to advance student learning” (White et al., p. 126), and questions the status quo with a commitment towards a democratic society (Aslan, Bondy, & Adams, 2011). Critical pedagogy is unique to a setting because it is responsive to students’ experiences, strengths and needs. By virtue of its uniqueness, it is not a set of practices to be followed (Aslan et al., 2011; White et al., 2014). In regards to CE, Skovsmose warns against undervaluing the significance of critical education in mathematics education and posits that it is critical for students to be involved in critical engagement to avoid the reproduction of existing social and power relations. One way this reproduction occurs in classrooms is where students are projected as either able or unable to perform certain activities (Holland, 1998; Lambert, 2015; Rubin, 2007).

Through incorporating critical pedagogy, Gutstein reported an increase in student agency for a Latino/a immigrant community in Chicago. The middle school students in the study engaged in real-world projects in the community and applied mathematics as an analytic tool to develop problem solving skills. Gutstein argues that within environments of high stakes testing, teachers still have agency to disrupt power relations and repressive educational systems.

With the proliferation of ICTs in the classroom, I argue that teachers may increase students’ engagement in mathematics through employing critical pedagogy when delivering content to students. Critical pedagogy challenges teachers to engage in pedagogical praxis by becoming reflective practitioners who create authentic contexts for students and engage in a continuous process of critical consciousness (Aslan et al., 2011). Teachers can integrate technology in mathematics instruction in ways that offer both remediation of skills and avenues that provide creativity and challenging opportunities. Critical pedagogy entails shifting perceptions of how knowledge is constructed by departing from traditional teacher-centered approaches to allowing students to engage in problem-oriented activities. Problem-oriented mathematics education seeks to contextualize mathematics instruction and make the learning experience relevant to the student (Gutstein, 2007; Brantlinger, 2013; Miller, 2014; Skovsmose, 1985). More research is needed to evaluate the effects of critical mathematics education on learner outcomes (Leonard & Moore, 2014), and particularly ethnically diverse students with mathematics difficulties.

The role of the teacher changes to one of supporting students on how to effectively use ICTs, to develop critical thinking skills and construct knowledge from the over-abundance of information available through ICTs. Faced with increasing number of students struggling with mathematics difficulties, and increased pressure to improve mathematics test performance, it is natural for teachers to focus largely on the development of mathematics fluency through drill and practice computer programs instead of challenging students to develop transferable skills beyond knowledge acquisition. The importance of developing basic skills can’t be overemphasized, however a teacher using critical pedagogy chooses to disrupt perpetuating “old” practices that lack social relevance and promote learning with ICTs, instead of learning from ICT (Tay, Lim, Lim, & Koh, 2012). Students can accomplish this through developing projects or working collaboratively with peers. Critical pedagogy questions and evaluates the quality of ICT in the learning environment by ensuring that students retain the learning power instead of the computer program or ICTs dictating and controlling students’ actions and students learning. Aslan et al. (2011) notes that more research on critical pedagogy is needed to counter any assumptions that critical pedagogy negatively impacts students’ performance on high-stakes tests by advocating for a democratic society.
Conclusion

In addition to critical pedagogy, alignment between the mathematics curriculum and clear articulation of the expected goals of ICT use is critical for successful integration in the classroom. This clarity may inform the development of pedagogical innovations that involve establishing different classroom routines or procedures (Loveless, DeVoogd, & Bohlin, 2001). It is important to acknowledge that there are real tensions between the “new” teaching practices through technology and “old” forces of traditional teaching in an ICT-era characterized by few satisfactory solutions (Górniak-Kocikowska, 2008). These prevailing challenges are typical in an environment embracing a culture of innovation. School leadership culture towards ICT may influence the way ICT is integrated in a school setting. Therefore, school leadership is tasked with (a) establishing an environment that embraces a culture of innovation through ICTs by encouraging the development of communities of practices that facilitate collaboration amongst teachers (b) providing relevant professional development (c) providing access to technology support and ensuring curriculum standards align with technology integration (Bain & Watson, 2012; Hitchcock, 2011; Passey, 2012).

Systematic integration of ICTs coupled with pedagogical innovations may create opportunities for both independent and social learning opportunities for students with mathematics learning difficulties. Passey (2012) posits that pinpointing pedagogical approaches for mathematics classrooms will require an analysis of the nature of technologies or resources involved, the nature of pedagogies, social interactions involved in learning settings, and the nature of measures used to identify the impact on learners.

Lastly, Skovsmose highlighted that critical education has to be explicitly integrated into mathematics education to allow mathematics education to become critical especially for students with mathematics difficulties, where stereotypes can easily be reified when students are assigned certain labels and profiles (Naraian, 2010). I agree with scholars in the field, for example, Hitchcock (2001) in positing that all stakeholders, including policy makers, will need to walk the talk that, access and participation in the general education curriculum is a right for all students.

References


