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Culture and Collective Teacher Efficacy:

A Case Study in Efficacy

Scott Jason Benson

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

Doctor of Education

Pamela Hallam, Chair
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ABSTRACT

Culture and Collective Teacher Efficacy: A Case Study in Efficacy

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Doctor of Education

The concept of collective teacher efficacy was first introduced by Bandura (1997) in the 1990's. Hattie's (2016) identification of collective teacher efficacy as the number one influence on student achievement has led to the idea that educators within a school have the ability to positively impact student achievement. In his research, Bandura identified four sources of both individual and collective teacher efficacy: mastery experiences, vicarious experiences, social persuasion, and affective state. The purpose of this qualitative research study is to identify aspects of school culture that support collective teacher efficacy. This was done by interviewing 32 members of the faculty and staff at a K-8 school in New Zealand through a lens of social cognitive theory. Qualitative analysis of these interviews identified five core aspects of school culture that contribute to collective teacher efficacy: shared vision for learning, school systems, relationships, well-being, and collaboration. Based on the assumption that collective teacher efficacy can have a positive effect on student achievement, it is my assertion that understanding and applying these five aspects of school culture could have a significant and positive impact on student achievement.

Keywords: collective teacher efficacy, school leadership, school culture, sources of efficacy

ACKNOWLEDGMENTS

This dissertation is focused on collective efficacy and on the role that belief plays in developing the attitude that we can accomplish important things together. I can honestly say that this dissertation is the result of many, many people believing that this was possible. I am grateful for their belief in me, in the research, and in the possibilities that we can provide to our students and communities when we come together and show them that our belief in them can be more powerful than many of the things that they face in their daily lives.

I'd like to thank my amazing dissertation committee who started out as my professors and ended up as my friends. Dr. Isaac Calvert inspired me to tell a story, Dr. Sterling Hilton taught me to be honest with my data and to tell the right story, Dr. David Boren always asked the right questions, and Dr. Pamela Hallam made this all possible. It was through her guidance and inspiration that I had the life-changing opportunity to study collective teacher efficacy at School ABC. Thanks, Pam. I am also grateful for the McKay School of Education and the Experiential Learning Funds which made my time in New Zealand possible.

I am so grateful for the amazing faculty at School ABC who welcomed us into their school. There is a reason that they are changing education throughout the world, and it is an honor for me to try and help tell their story.

It has been said that “there are friends, there are family, and there are friends that become family.” This describes my doctoral cohort and my research partner, Karen Strong. Thanks for becoming my family.

In closing, I want to acknowledge my wife, Jess, and my children, Izzy, Tom, and Tess. I am a better person because of them and appreciate all of their sacrifices during the course of my doctoral work. They truly are the best part of me. To Chad and Cheryl Downs, who have been

rocks in my life ever since I was welcomed into their home over 20 years ago, thanks for everything. Finally, I would also like to acknowledge my dad, Scott Benson, and my mom, Lonetta Brady, who both passed away from cancer during this journey. Even though they never finished college, they always wanted a better life for all of their children. I wish they could be here to celebrate with us, but I know that we will celebrate together someday. I love ya, Mom and Dad.

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DESCRIPTION OF DISSERTATION STRUCTURE AND CONTENT

This dissertation, *Culture and Collective Teacher Efficacy: A Case Study in Efficacy*, is written in a hybrid format that has been approved by the McKay School of Education at Brigham Young University (BYU). This hybrid format brings together traditional dissertation requirements with journal publication formats with the intent to produce a dissertation that is in a journal-ready format. While the preliminary pages of this dissertation reflect submission requirements set forth by BYU, the dissertation report itself has been written as a journal article and meets the requirements, such as manuscript length and style, for submitting research reports to educational journals. Appendices, such as an extended literature review, are included as part of this dissertation and are found after the dissertation article.

The targeted journal for this dissertation is *Educational Administration Quarterly*, a tier-one journal that “focuses on timely and critical leadership and policy issues of educational organizations.” Research articles must be rigorous and relevant to scholarly work and be able to link educational policy, practice, and research.

Manuscripts should be double spaced in Times New Roman 12-point font, 25 to 40 pages in length, including references, tables, and figures, and follow the style of the 7th edition of the APA manual. Once a manuscript is determined to meet standards of scholarship and consistent with the mission of *Educational Administration Quarterly*, it will be sent out for blind peer review. After the blind peer review, a final determination will be conducted based on the recommendation of the peer review.

Introduction

In 1977, Bandura put forth the ideas of social learning theory and the concept of self-efficacy—that is, the belief that one has the capabilities to organize and execute the necessary actions to attain specific goals. Bandura further proposed that “expectations of personal efficacy are based on four sources of information: performance accomplishments, vicarious experiences, verbal persuasion, and physiological states” (Bandura, 1977, p. 195). In order to give context to the study that follows, the following paragraphs outline the four sources of Bandura’s theory in more detail.

Sources of Efficacy Information in Social Learning Theory

The first source of efficacy information is performance accomplishments (also referred to as mastery experiences), which focuses on first-hand experiences where persons have succeeded or failed at a specific task. Bandura sees these experiences as indicators of capability (1977, 1997). Goddard (1998) further states that “Of the four sources, enactive mastery experiences are the most powerful because they directly convey information about a person's ability to succeed under a given set of conditions” (p. 18). Seen in this light, foundational researchers in this field view mastery experiences as among the most important sources of efficacy.

The second source of efficacy information, vicarious experiences, occurs when someone observes those around them performing a specific task. Such moments are largely dependent on the credibility, trustworthiness, and expertise of those who are observed as potential role models (Bandura, 1977, 1997). According to another educational researcher, “Efficacy that is gained by observation is acquired vicariously. Observing another person perform a task successfully can influence personal beliefs about their ability to do the same” (Eells, 2011, p. 28). Goddard (1998)

further stipulates that such opportunities to observe others modeling best practice are crucial in developing efficacy because they allow us to assess our own competence.

The third source, social or verbal persuasion focuses on the social influences within an educational setting. Such persuasion, wrote Goddard, “is dependent on the beliefs that others have in our abilities” (1998, p. 20). “It is easier to sustain a sense of efficacy,” said Bandura, “especially when struggling with difficulties, if significant others express faith in one’s capabilities” (1997, p. 101). Often given through feedback, the impact of social persuasion also depends on the credibility of the person giving the feedback (Bandura, 1997; Goddard, 1998; Tschannen-Moran & Hoy, 2007).

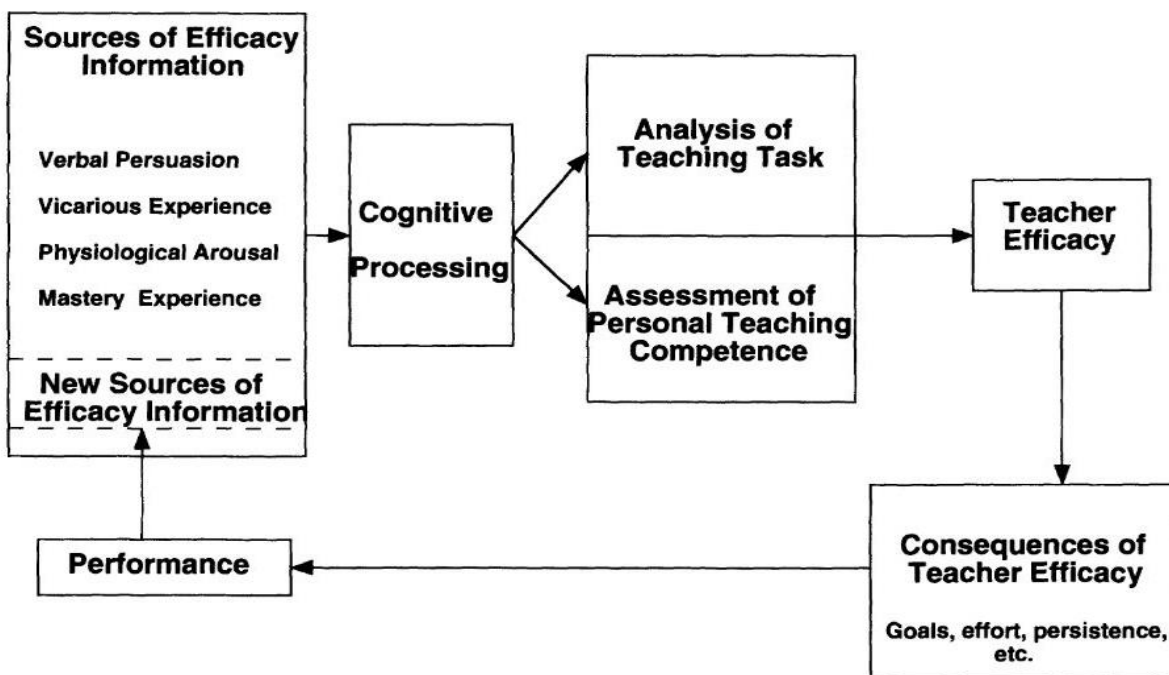
Finally, the fourth source of efficacy information, affective and physiological states, are the moods, emotions, and physical states that impact the exercise of personal control through thoughts and actions (Bandura, 1977, 1997). Tschannen-Moran and Hoy (2007) both stipulate that “the feelings of joy or pleasure a teacher experiences from teaching a successful lesson may increase her sense of efficacy, yet high levels of stress or anxiety” may do the opposite (p. 945). In considering these four sources of efficacy, Bandura proposes that they play a critical role in developing and sustaining the belief that people have in their ability to accomplish tasks throughout their lives. These tasks not only include personal goals but also professional and job-related tasks as well.

In the years prior to the publication of Bandura’s theory, researchers from the RAND Corporation identified elements of high and low efficacy among teachers (Weber & Omotani, 1994). However, while the RAND Corporation’s research proceeded Bandura in identifying the role of teacher efficacy in an educational setting, their research did not become as foundational to the study of collective teacher efficacy as Bandura’s later became to future education

researchers. Since their introduction over 40 years ago, the concepts of self-efficacy and teacher efficacy have significantly influenced education researchers. Further on this trajectory, Bandura (1993) continued to broadly build upon his prior research on efficacy by focusing more closely on what he termed collective teacher efficacy. From this point of view, he began to notice that “teachers operate collectively within an interactive social system rather than as isolates” (p. 141). “Rooted deeply in Bandura’s social cognitive theory and his concepts of self-efficacy” (Zhou, 2019, p. 71), collective teacher efficacy connects Bandura’s previous research on efficacy and extends his theory to a collective mindset. By highlighting the important role that systematic beliefs have on school cultures, whether they are “vitalizing or demoralizing,” Bandura found that collective teacher efficacy can impact student achievement when schools have “staffs who firmly believe that, by their determined efforts, students are motivatable and teachable whatever their backgrounds” (Bandura, 1993, p. 143).

Within the next decade, many researchers would conduct important education research on teacher and collective teacher efficacy that built upon Bandura’s findings. In 1998, Tschannen-Moran et al. solidified the concept of teacher efficacy in their article, *Teacher Efficacy: It’s Meaning and Measure*, and presented an integrated and clearly defined model of teacher efficacy that included Bandura’s sources of self-efficacy as key components in the cyclical nature of promoting student achievement through teacher efficacy (Figure 1).

Figure 1

Model of Teacher Efficacy

Note. From Tschannen-Moran et al. (1998).

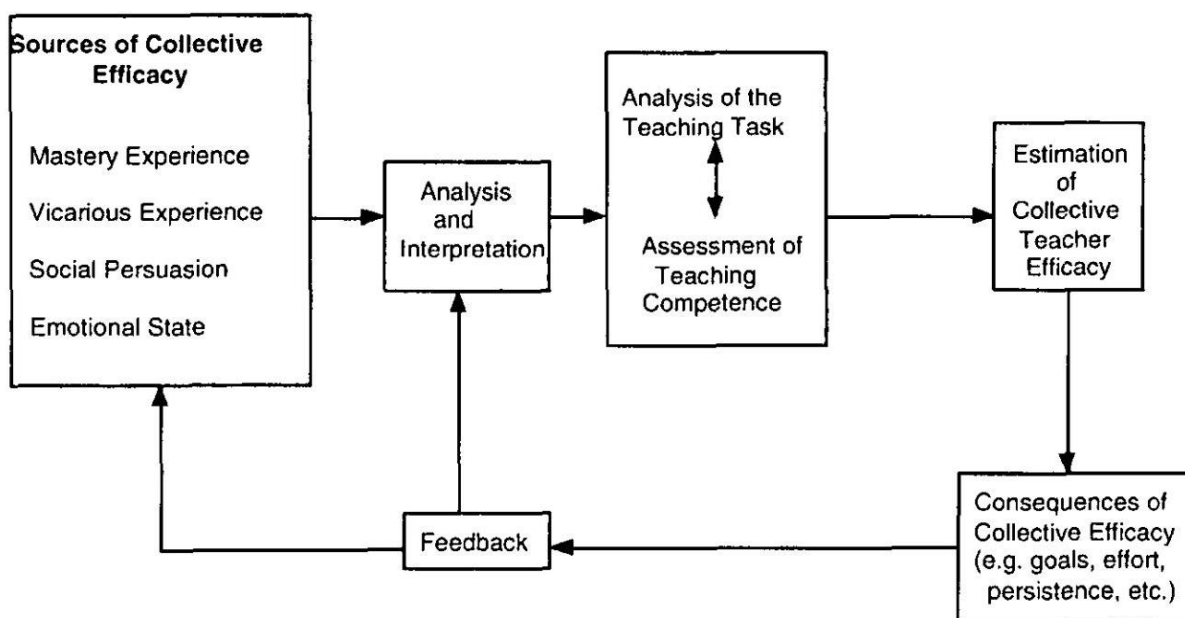
In that same year, Goddard (1998), after noting that “while there are numerous studies of teacher efficacy, collective teacher efficacy has received relatively little research attention” (p. 2); therefore, he set out to determine if collective teacher efficacy truly had an effect on student achievement. According to his dissertation findings, which were consistent with Bandura’s study in 1993, collective teacher efficacy did indeed have a positive impact on student achievement within schools (Goddard, 1998).

It was not until Goddard teamed up with the Hoys that the education field was introduced to one of the first collective teaching efficacy conceptual models (Figure 2). In their seminal work, *Collective Teacher Efficacy: Its Meaning, Measure, and Impact on Student Achievement*, Goddard et al. (2000) based their definition of collective teacher efficacy on “the self-efficacy

formulation of Bandura (1997) and the model of teacher efficacy...developed by Tschannen-Moran et al. (1998)” (p. 482).

Figure 2

Simplified Model of Collective Teacher Efficacy



Note. From Goddard et al. (2000).

Understanding Efficacy

In an effort to provide supporting evidence regarding efficacy and to improve student achievement, researchers have sought to more fully understand teacher self-efficacy and collective teacher efficacy through the use of survey instruments, such as the Gibson and Dembo's (1984) teacher efficacy scale, Tschannen-Moran and Hoy's (2001) teachers' sense of efficacy scale, and the Norwegian teacher self-efficacy scale (Skaalvik & Skaalvik, 2007). Then, in an effort to understand how individual teachers view the collective teacher efficacy within their teams and schools, Goddard et al. (2000) created their collective teacher efficacy scale,

which was followed by other collective teacher efficacy measurement instruments such as the collective teacher beliefs scale by Tschannen-Moran and Barr (2004).

When considering the history of using instruments to assess and understand collective teacher efficacy, it is important to consider a few important factors. First, context matters. Goddard et al. (2000) state that “teacher efficacy is context specific” because “teachers do not feel equally efficacious for all teaching situations” (p. 482). Second, collective teacher efficacy can be measured in several ways, including as the aggregate of teacher self-efficacy (I referent statements) or as the aggregate measures of individual perceptions of group- referent capabilities (We referent statements; Bandura, 1993; Goddard et al., 2004). It can be argued that the results of measuring collective teacher efficacy within a specific context may change depending on the manner (i.e., I referent vs. We referent) in which collective teacher efficacy is being measured. For this purpose, Bandura (1993) and Goddard et al. (2004) suggest that it is most appropriate to “conceive and assess perceived collective efficacy as the aggregate of individual perceptions of group capability” or as “we referent statements” (Goddard et al., 2004, p. 7). Third, the majority of research on collective teacher efficacy has been conducted using quantitative methods. According to educational researchers Klassen et al. (2011), who reviewed 218 studies on teacher self-efficacy and collective efficacy from 1998-2009, more than 75% of studies used only quantitative methods while only about 15% used a mixed methods approach and less than 10% used only qualitative methods.

Collective Teacher Efficacy

Over the past few years, increasing collective teacher efficacy has been at the forefront of many educational institutions because Hattie, the Director of the Melbourne Educational Research Institute, identified collective teacher efficacy as having the largest effect size on

student learning (Visible Learning, n.d.). According to the Visible Learning (n.d.) website, Hattie's meta-analysis research found that collective teacher efficacy has an effect size $d=1.57$,¹ that is almost twice as large as the effect size of feedback ($d=0.72$) and almost three times larger than the effect size of classroom management ($d=0.52$). Hattie based his findings on the Ph.D. thesis of Eells, an education researcher, who found, in their own meta-analysis on studies of collective teacher efficacy and student achievement, that "collective teacher efficacy is strongly related to achievement in schools" (Eells, 2011, p. 129).

Further research has shown that collective teacher efficacy has a strong and positive correlation with student achievement. Ramos et al. (2014) performed a meta-analysis of 12 studies that were conducted between the year 2000 and 2013 on collective efficacy beliefs and the impact these beliefs had on student performance. In their meta-analysis, they found that 100% of the studies found a positive relationship between the collective efficacy beliefs of participants and student performance. They determined that while there are contextual variables that may influence collective teacher efficacy beliefs, student academic performance is directly related to collective teacher efficacy (Ramos et al., 2014). Education research has also shown that school leadership can have a significant impact on the collective teacher efficacy within a school by building instructional knowledge and skills, creating opportunities for collaboration, providing actionable feedback on teacher performance, and involving teachers in school decision making (Brinson & Steiner, 2007).

Statement of the Problem

With the increased attention on collective teacher efficacy and its potential influence on student outcomes, school leaders have been striving to increase the collective teacher efficacy

¹ The effect-size measure calculated by Hattie is Cohen's d .

within their institutions. Unfortunately, while there is a general familiarity with collective teacher efficacy and its relationship with Bandura's four sources of efficacy, school leaders often do not have a sound understanding of what this looks like within the realm of education, and especially within the specific context of their schools. Without a clear direction of how to facilitate and cultivate the sources of efficacy within their schools, school leaders continue to struggle to facilitate collective teacher efficacy and thus forfeit the potential benefits to student learning.

This study builds upon the existing collective teacher efficacy research by qualitatively examining aspects of school culture that support collective teacher efficacy and how these aspects can connect to Bandura's sources of efficacy. In reflecting on previous collective teacher efficacy research, we felt it is important to note the following. First, while research has been conducted on possible antecedents to collective teacher efficacy (Loughland & Ryan, 2020; Ross, 1994; Tschannen-Moran & Hoy, 2007), it is vital that school leaders have a deeper understanding of factors, such as possible antecedents and elements of school culture that support and influence collective teacher efficacy. Second, because the majority of research on collective teacher efficacy has focused on teachers in the United States of America (Minett, 2015), more studies outside of the USA are required to identify consistent factors that support collective teacher efficacy within a more global educational context. Finally, due to the lack of qualitative studies on collective teacher efficacy, which would allow researchers to hear from educators in specific educational contexts, it can be difficult to ascertain specific descriptions of the sources of collective teacher efficacy within school settings.

Until school leaders have a sound understanding of the important role that school culture plays in supporting the development and continuation of collective teacher efficacy, and how specific aspects of culture can connect to Bandura's four sources of efficacy, leaders of

educational institutions may continue to struggle in building effective and lasting collective teacher efficacy. With a deeper understanding, school leaders will be able to connect specific, collective actions to foundational efficacy beliefs which can then lead to an increase in student achievement.

Research Question

The purpose of this study was to examine culture and collective teacher efficacy within School ABC, a K-8 grade school located in Auckland, New Zealand. School ABC, open since 2011, was chosen for our research due to the role that it has played on influencing education practices throughout the world. Members of our research team heard the principal of School ABC speak at numerous conferences, including at Brigham Young University (BYU) in 2017 where she was invited as a conference keynote speaker. The time she spent at BYU allowed a key member of our research team to get to know the principal in a more personal manner. Schools and local districts have also sent teams of educators, including district level administrators, to visit School ABC. This was done in an effort to receive onsite professional development at School ABC that could potentially influence district and school level practices in a more local context.

In addition to these more personal connections to school ABC, research conducted in 2018 by Hallam et al. (in-press) at School ABC, using the short form collective teacher efficacy scale set out by Tschannen-Moran and Woolfolk Hoy (2001) with the faculty and staff, found, that [School ABC] had an average collective efficacy score of 7.47 [95% confidence interval: 7.14-7.80], making it a slightly higher than average school with regard to collective efficacy. A two-tailed t-test comparing the School ABC score to the mean and

standard deviation of the 66 schools in the Tschannen-Moran and Barr (2004) study showed that this represents a significant difference. (p. 14)

Hallam et al.'s findings demonstrated that the faculty and staff at School ABC had higher levels of collective teacher efficacy than other schools (in-press). Using social cognitive theory as a foundation, our research team then conducted a qualitative case study on collective teacher efficacy beliefs through interviews with educators from School ABC. Specifically, we sought to answer the research question, "What aspects of culture at School ABC support collective teacher efficacy?"

Given the attention that collective teacher efficacy has received throughout the field of education, the findings from this study have implications for school leaders who are attempting to increase student achievement through building the capacity and collective teacher efficacy of their faculty and staff. This study contributes to education research by the increasing the understanding of how school leaders can support and facilitate the collective teacher efficacy beliefs through the establishment of key components of school culture.

Research Methods

For this study, our research team conducted semi-structured interviews with the faculty and staff at School ABC. We contacted the principal of School ABC via both email and phone calls in order to coordinate our research study, as well as to obtain permission to conduct the research in the school. Interviews were conducted in an individual, open-ended question format with one member of our four-member research team. Using a series of questions that were developed using other teacher and collective teacher efficacy scales as a guide, interviewers met with individual faculty and staff for a period of 25-30 minutes.

Participants

Individual interviews were conducted with faculty and staff members of the School ABC. The principal of School ABC approached her faculty and staff and invited them to participate in the interviews. Interviews were conducted with 32 out of the 39 members of the school faculty and staff at that time, including the principal, school administration (assistant principals, etc.), teachers, and some classified personnel. We interviewed four male educators and 28 female educators. Table 1 contains a summary of the interviews conducted.

Table 1

Respondents by Type

Type	Interviews	Number of Respondents
Principal	In-depth (90 minutes)	1
School Administration	Intermediate (25-30 minutes)	3
Classified Personnel	Intermediate (25-30 minutes)	2
Teachers	Intermediate (25-30 minutes)	26
Total		32

Procedure(s)

While we attempted to conduct a census sample of the faculty and staff, due to the voluntary nature and timing of the interviews, we ended with a voluntary convenience sample of 82% of the faculty and staff who were willing to be interviewed. One-on-one interviews were conducted in the school by the four members of our research team and later transcribed by the research team. In order to maintain consistency throughout the interviews and between members of the research team, protocols were established to ensure the credibility of the research process. These included having each interviewee sign the consent document before beginning the interview, audio recording each interview, and using the same instrument and questions for each interview. IRB approval was obtained by BYU and the school before conducting our research.

Instrument

Interview questions were written and developed specifically for the educators at School ABC by our research team, which consisted of two doctoral students and two BYU professors. Questions were based on teacher and collective teacher efficacy research literature, and as previously mentioned, measurement instruments such as Tschannen-Moran and Hoy's (2001) teacher sense of efficacy scale and Goddard et al.'s (2000) collective teacher efficacy scale as a guide. Our instrument consisted of eight questions regarding their experience(s) as an educator, their work life at School ABC, and the impact they feel they have on the teaching and learning at their school.

Data Analysis

In order to process and analyze the interview data, interviews were recorded and later transcribed by the research team. During the interviews, each researcher took notes, which were later compared to the transcribed interviews. The research team met immediately after completing the interviews at School ABC to discuss initial thoughts and to identify potential themes and patterns. This discussion was recorded, transcribed, and used in this data analysis to compare initial research team impressions to our own coded data during the axial coding phase of our research. This fostered a deeper sense of understanding with our findings, especially when considering similarities between initial team impressions and our thorough coding.

We used the NVivo 11 software, a qualitative analysis software program released in 2015, to conduct cycles of data analysis based on methods of grounded theory, which focuses “on inductively generating novel theoretical ideas or hypotheses from the data as opposed to testing theories specified beforehand” (Gibbs, 2007, p. 49). As suggested by Corbin and Strauss (1990), data analysis included cycles of open coding, axial coding, and selective coding. Due to

the large number of categories that were generated in the coding process, our research team used the threshold of 60% or higher to distinguish between significant themes and notable themes.

Notable themes were identified using the thresholds of 30% to 59% (Greckhamer et al., 2018).

During the open coding cycle, each interview was individually coded, so the members of the research team could look for patterns and themes related to collective teacher efficacy the interview suggested might exist within the school. Similar themes mentioned by the faculty and staff of School ABC were then categorized together, and sub-categories were created based on constant comparison, as explained by Sharon Kolb (2012), of the faculty and staff responses (Corbin & Strauss, 1990; Gibbs, 2007). Once this was done, another round of coding was conducted, following the same pattern of categorization and constant comparison, this time using the framework of the research questions. Next, axial coding was conducted, looking for relationships and patterns between the categorized themes and identifying possible relationships between themes and the sources of efficacy. Corbin and Strauss (1990) explain that relationships are identified through the lens of “conditions, context, strategies (action/interaction), and consequences” (p. 423). In the axial coding phase, we focused on discovering the connections that might exist between the elements of Corbin and Strauss’s relationship lens.

Finally, during the selective coding cycle, memos were created for each theme, in order to develop a more concise definition and a deeper understanding for each category (Corbin & Strauss, 1990). Using these memos, categories were then collapsed and consolidated based on relationships to one another, and prioritized into central themes. Through this process, we then identified the core category for our research that was able to connect theory, research, and literature to the findings of our research study.

Limitations

There were three major limitations to this study. First, since this is a single school case study which takes place in a unique setting, findings from this school were not compared to the findings in other schools. Second, time restrictions, including only two days in the school and limited time with each educator could have limited the study. Teachers may have been in a hurry to get back to class or researchers may have felt pressure to conduct the interviews without inconveniencing the faculty and so this could have added stress to the interviews, potentially interfering with the natural dialogue of the interview. Third, a lack of trust between the research team (visitors to the school) and the faculty could have limited the study if an educator did not feel comfortable sharing their true feelings or experiences at School ABC. However, even with these limitations, this study and its findings provide important insights for district and school leaders looking to improve the collective teacher efficacy within their schools.

Findings

Educators at School ABC indicated that intentional and deliberate cultural practices supported the belief in their ability to meet the needs of all students. This findings section is focused on discussing the themes that we identified through our interviews with the school's faculty and staff. First, we will provide a brief definition of culture and discuss the important role that it played at School ABC. We will then describe five critical themes (i.e., shared vision for learning, school systems and structures, relationships, collaboration, and well-being) that were identified in the data as crucial aspects of School ABC's culture. In describing these themes, we used the cultural context of School ABC as the basis for our findings and so specific placement of themes and sub-themes, such as systems and trust, were connected by using the actual interview text from the educators at School ABC. For example, educators described how their

grade-level structure fostered trust within their teams. Trust could have also been categorized under relationships, but in the specific context of School ABC, the educators themselves felt that the systems and structures of the school fostered trust through grade-level hubs, peer modeling, and feedback.

When considering the findings from Hallam et al. (in press) and our research on collective teacher efficacy at School ABC, we propose that their strong culture, characterized by a shared vision for learning, combined with school systems and structures, relationships, collaboration, and their focus on the well-being of their faculty and staff, fostered a deeper sense of collective teacher efficacy within their school.

Culture

For our research, we defined culture as the values, beliefs, and attitudes that guide the manner in which the school was functioning and that are evident in expected behaviors and the everyday operations of the school. As we interviewed the faculty and staff, it became apparent that the nurturing and connected culture of School ABC was an important part of how they viewed themselves as educators and “learners.” For educators at School ABC, the vision for learning was a crucial aspect of their school culture and established expectations of learning for both educators and students within the school. School ABC’s culture was also the foundation for how educators interacted with and treated one another, thus fostering positive relationships, well-being, and providing opportunities for effective collaboration.

Shared Vision for Learning

A vision for learning provides a clear understanding, to all stakeholders, of what learning will look like within the school. It includes school wide beliefs and values, and then connects those beliefs and values to expected student and educator behaviors. At School ABC, their

purpose is to cause learning, serve each learner and to create curious individuals who think and relate well to others. In talking to the faculty and staff, 75% of those interviewed mentioned that School ABC's shared vision for learning ($n = 24$) was their driving force and that it gave them a common identity. One teacher said that their strong shared vision for learning was promoted through their language of learning and that their vision for learning gave them strength as practitioners. She explained that "It gives us a strong framework in terms of supporting learners and learning how to learn."

One teacher pointed out that she was able to participate firsthand in the development of this shared vision of learning. Instead of just handing the faculty and staff an already created vision for learning, the school administration team pulled everyone together before the school had even opened and worked collaboratively to create a vision that they were all invested in. She stated:

When the vision came out, I was more invested because we had been a part of it. We knew that being my best self, being our best together, and breaking ground that was important to us. I felt really invested by it...I feel like we have more ownership over things and that we are on board a little bit more. It is not happening to us. We are part of it.

When asked about how they maintained such a strong, shared vision for learning with their faculty and staff, the principal said, "I think being clear on the vision, leadership works being guardian to that vision, and living and role modeling the values and the way we do things around here." In order to guard and promote their shared vision, School ABC's administration created a VIBES (Vision Instigators, Belief Enablers) team. The VIBES team worked closely with grade-level hubs and individual teachers, and as one teacher said, "they are always

providing support and solutions.” A first-year teacher described the impact that the VIBES team has had on her as “so helpful” and “that you can’t even put a price on that.” Another educator stated that “what the VIBES team or the management team have envisioned is very well dispersed through the school. They bring everyone along because it is momentum, positivity, go get ‘em. It comes from the top down.”

An assistant principal expounded more upon promoting their shared vision for learning, and its relationship to their school culture, when she explained that they have developed a vision presentation and a learning journey that helps potential faculty members experience firsthand “what we value.” She stated,

We are very transparent in who we are. We do things like our new to [School ABC] teacher open evening for those who are interested in applying for a job. We go through our vision presentation. We share our learning journey. We share this is what we do here, and this is what we value.

This transparency helped establish clear expectations for working at School ABC. This same assistant principal explained that having conversations with each potential teacher allowed them to stress that “this is what we believe and if doesn’t align with you, we may not be the right school for you because it has to be a right fit both ways.” She emphasized that “this is part of how we grow our culture here.”

Our study found that School ABC deliberately put faculty and staff into positions and provide experiences where they could learn and grow as educators. At School ABC, educators are viewed, and view themselves, as “learners and not knowers” ($n = 26$). They are encouraged to speak up, take risks, try new things, and to “leave their ego at the door.” Throughout our

interviews it was common to hear educators make comments such as “I am a teacher, but I am also a learner still” or “There's always something to learn.” As one teacher said,

You can have your voice. You can try something new. If you fail, you are going to learn from it. If you don't try and you always do the same, then it is not having a good impact on your learners. You need to do something about it.

In discussing this mentality with the school principal, she asked us, “So how do we make the teachers' jobs joyful, doable, and reasonable while serving our young people for their future?” She answered her own question by explaining that the school is a place where “you then provide the conditions, the capabilities, the tools that enable us to travel the undulating bumpy unknown pathway.”

Systems and Structures

In considering the culture at School ABC, our data identified important systems, which consisted of key structures, that facilitated their efforts to achieve their common purpose and vision. A variety of school systems and structures were mentioned by 97% of the faculty and staff ($n = 31$) as having a significant impact on their teaching capacity. They discussed how key structures, such as grade-level hubs ($n = 25$) and a collaborative system that promoted student academic progress ($n = 23$), allowed them to grow as educators through intentional, systemic, and structural school design.

Unlike traditional elementary schools where students are placed with a single, grade-level teacher, School ABC's students were placed in grade-level learning hubs. Each hub consisted of two to four teachers who collaboratively teach grade-level students. Depending on their experience and area of expertise, teachers divided up teaching responsibilities that would normally fall to one teacher in a “singleton” classroom. For example, math was generally taught

to all the students in the hub by one teacher while students learned about language arts from another teacher. This allowed teachers to take responsibility for the entire hub and cultivated a sense of ownership within the team.

When interviewing teachers, 78% mentioned that this grade-level structure ($n = 25$) was one of the most important pieces in building collective teacher efficacy at School ABC. By removing the walls, barriers, and mentality that often accompanies “single cell” teachers, educators at School ABC were constantly surrounded by opportunities to learn.

It is important to note that educators at School ABC pointed out that opportunities such as peer modeling ($n = 12$) increased their skill level and ability to meet the needs of all students within the school. A new teacher described the impact that this has had on her during her first year at School ABC. She said,

You've always got a role model there to show you what's going on, and if things turn to custard, then someone's there. Definitely being in an open space and being able to see what other people are doing is just probably one of the best ways to learn.

A veteran teacher who was new to School ABC discussed the difference between her previous experience at a traditional school and her time at School ABC. She explained that even though she had only been at School ABC for a short amount of time, this type of environment had fostered vicarious learning. She said,

You might see something else in action and you might see the results that that teacher has gotten and say, “I am going to change my practice to that.” And also, if something really has worked well for me it is like “I am going to share that. This was really successful” and then you get others to buy-in because it worked.

Due to the systems and structures in place, educators mentioned how they were able to build trust within their teams ($n = 14$) in a more authentic manner, consequently allowing them to learn from each other in an environment that was established to build teacher capacity. A veteran teacher said, “you're not alone and you're not expected to be the expert in everything” and another more novice teacher explained that “you have that opportunity to observe more, and you have somebody slowly scaffolding you into taking the reins.”

The culture at School ABC played an important role in increasing teacher capacity within each grade level because the school administrators were very intentional when creating grade-level hubs and teams. An assistant principal described that the administrative team focused on knowing the strengths and struggles of each teacher. They always ask, “who can we place around this person’s being so [John] can be the best [John] can be?” She emphasized that it isn’t just about placing teachers together because they get along or because it is time for a change. Grade-level hubs are cultural centers where the vision for learning is prioritized and efficacy is actualized. For example, mentors are placed in the same hub as newer teachers. A newer teacher described the positive relationship she had with her mentor and made it clear that she would have been years behind as a teacher without having structured vicarious experiences. She explained that “because I was seeing it modeled every day, and we had shared expectations, it really, I think, brought my confidence up in that.” Another mentored teacher said, “you're not just expected to know it all off the bat or figure it out as you go. Sometimes you do need someone to say, hey, this is how you do it. You don't learn everything on your own.”

It is notable to mention that 11 out of the 32 faculty and staff described that “feedback from leadership, feedback from the students, feedback from teachers” not only helps them to improve their own teaching, but it helps them to be a more effective team member. One educator

explained that the best feedback for her was given by not pointing out what she was doing but rather through asking her questions, such as “why do you want it that way” or “why do you need it that way?” In her opinion, “it is the best way to get yourself to metacognitively think about what you are doing yourself.” Another teacher, when referring to the entire school, said “we are all really good at giving feedback about what is working and what is not working. It’s about the culture and how happy we are.”

Often called a “sense making” conversation, this feedback, one of the school assistant principals said, begins with seeking to understand the situation and asking good questions. Feedback, she explained, is meant to make teachers feel empowered and valued, not just telling someone what they need to improve on. With regards to feedback, one teacher confirmed this philosophy when she said:

So, it is putting the question back on you and giving you ownership to actually notice for yourself. It is all about growing your awareness, I think. Helping you notice rather than telling you what you have to do. It is quite powerful actually when you notice it for yourself.

In describing the role that trust and respect play in receiving feedback from her team, one teacher at School ABC stated,

Because I have a team that I actually really respect...I am lucky in that sense. With the feedback they put in, because I respect them, I can take it onboard and then put it into practice.

Relationships

Thirty-one (97%) members of the faculty and staff discussed the important role that relationships, or personal connections, played at School ABC. Not only did interviewees mention

the relationships, or personal connections, they had with each other and their students, they discussed the important relationships they had with their school administration.

For many educators at School ABC, relationships with their students were a top priority and many believed that students learn more effectively if they have a positive and trusting relationship with an adult in the school. One educator said, “If you can show the children that you believe in them, then they will want to do the work” while another explained that “I think that if I make the time to continually build the relationships then the learning piece is going to be able to take off.” In order to build that positive and trusting relationship, a veteran teacher said that you need to show that “you actually like the kids, and you appreciate them, and you respect them.” As the relationships between students and educators at School ABC grew, and as the educators got to know their students as individuals, educators felt that they could truly begin to meet their individual needs. As one educator said, “if you know them well, then you can design learning that you know is going to engage them.”

As we interviewed the faculty and staff at School ABC, relationships between teachers, teams, and grade-level hubs were identified as a key aspect of their success. Educators mentioned that “parents can walk in and they can see that positive attitude that we have towards each other” and that without their relationships with each other, “you are not going to get anywhere with anyone if you don’t build that first.” A newer teacher mentioned how relationships with the adults in the building helped her through a difficult experience. She said she was discouraged “but as soon as one adult gave me just a little bit of love and extra care at school, I felt like I was successful, even if I wasn’t.”

In our interviews, faculty and staff also mentioned the important relationships they had with their school administration. Many felt that relationships were built when the administrative

team demonstrated their belief that the educators and teams were “on the right track and doing the right thing.” This led to more positive relationships as faculty and staff viewed themselves as valued members of the school.

Although it didn’t meet the significant threshold of 60%, it is important to point out that more than 57% of interviewees ($n = 18$) indicated that they were more invested and dedicated to the culture of the school because they knew that their voice, opinions, and thoughts mattered to the school administration. For many educators at School ABC ($n = 15$), knowing that their voice matters led to taking ownership for not only their grade-level hubs but for what is happening in the entire school. For example, one educator explained that School ABC doesn’t have an unwritten “hierarchical system” and so they try to be really inclusive and everyone’s voice is heard. This allows them to “see the value of everyone owning what we do.”

An assistant principal explained that she felt that the school administration genuinely wanted to know teachers’ perceptions, ideas, and opinions. Whether it was in formal committee meetings or informal conversations during morning tea, she said, “We have a variety of leaders across the school that, I think, were very much in gathering voice from all teachers. It helps us inform our decisions.”

When referring to the school principal, one educator described having time to dialogue directly with the principal as “invaluable” and said that she has “never had a principal like [this one] before.” She continued on by explaining that the principal “is just so open to talking...and how we can improve on things” and that “if you go to her with a problem, she will sit down with you and make time with you.”

This accessibility to the principal as well as the rest of School ABC's administrative team has fostered trusting relationships within School ABC's educators. One teacher explained that having access to the administrative team demonstrated that "we are all in this together."

Collaboration

Collaboration, or working together as peers or in larger groups to increase student achievement, was mentioned by 75% of the educators ($n = 24$) at School ABC as one of the strongest components of their school culture. Collaboration is a school-wide effort and as the principal said, "it boils down to communication, commitment, and availability to meet together." Teachers collaborate in grade-level hubs but there are also numerous committees that educators participate in. From the wellness committee to the agency committee, teachers have opportunities to actively collaborate with other educators throughout the school.

One teacher described how she felt "massively supported" at School ABC. She said that "the collaboration is bigger than what [she] thought" and that School ABC is an "organization where you are heard and helped" because "someone is always working with you to do something." Another educator described the "collaborative environment" at School ABC as one where they "truly collaborate in a sincere way."

Student learning is at the heart of collaboration at School ABC. A veteran teacher explained that they come together as a learning hub if they have a struggling student and that "we try and see what can do to help the learner." If the student isn't learning, she said, "we need to change our ways to help them." One teacher explained that it "is better for students" because, through collaboration, "you yourself will be introduced to ideas you would have never thought about" and that these ideas will help educators more effectively meet the needs of the students.

In order to support teacher learning, School ABC has also built collaborative coaching ($n = 15$) into their daily and weekly schedule. Collaborative coaching focuses on coaching the entire grade-level hub on a common need, such as collaborating more effectively, looking at the hub learning design or using data and evidence. These coaching sessions potentially consisted of structured, semi-structured, and even informal conversations that were conducted by the school leadership team, mentor teachers, evidence assurance coaches, or even, at times, other teachers.

Well-Being

Members of School ABC understand that teaching and learning can be difficult at times. When considering the impact of emotions and the stress of teaching on individual and collective teacher efficacy, our data showed that School ABC was intentional about addressing what School ABC calls the well-being of their faculty and staff. Overall, 81% of the individuals we interviewed ($n = 26$) mentioned intentional practices, strategies, and resources at School ABC that promoted higher levels of a person's mental and physical health as well as a person's happiness and well-being. This focus on well-being is tied to the very culture of School ABC. For example, they have created a wellness committee and have even brought in outside experts to provide professional learning and development around well-being for teachers and students. Teachers were appreciative of these efforts and one commented that, through the schools' efforts to take care of their well-being, she knew that "they really deeply care about us as teachers and us as the educators, and they really want to work in partnership with us, which is really, really, really nice."

It is important to note that while we should consider these themes as separate concepts to build upon and develop, data from this study demonstrated that these concepts were often interrelated at School ABC. For example, the effectiveness of the collaboration, or working

together to increase student learning, within a grade-level team is often interrelated to the relationship, or personal connections, that the grade-level team members have with each other. Knowing this, the school administrative team offers opportunities for teams to build relationships outside of school, such as providing resources that allow grade-level teams to meet together in social settings, thus fostering positive relationships that are not solely dependent on a school setting. Opportunities such as this are made possible through the culture at School ABC.

Discussion

This research study set out to interview the faculty members of a school that was known for its innovative practices and collaborative culture. By interviewing the faculty and staff at School ABC, our goal was to identify links between their culture and the collective teacher efficacy within the school by answering the research question, “What aspects of culture at School ABC support collective teacher efficacy?” By answering this research question, our hope was to provide school leaders with specific cultural practices that would allow them to support collective teacher efficacy at their schools. In reference to Bandura’s research on collective teacher efficacy and the four sources of efficacy, our goal was to also make connections between our findings and Bandura’s sources of efficacy. By making these connections, our hope was to provide school leaders with specific and educational, best practices that have connections to decades of education research, thereby increasing the validity of our research. In this section, we will discuss how our findings connect to educational best practices and education literature.

According to the Association for Supervision and Curriculum Development (ASCD), a non-profit, international educational organization, school culture is defined as “the way teachers and other staff members work together and the set of beliefs, values, and assumptions they share” (n.d., para. 2). Through School ABC’s culture, they were able to develop a shared vision

for learning that focused on leveraging their school's systems and structures, their relationships with each other, their mental and physical well-being, and a school-wide collaboration effort to build their belief that they can have a positive effect on student learning within the school.

Goddard et al. (2000) stated that “because collective teacher efficacy beliefs shape the normative environment of a school, they have a strong influence over teacher behavior, and consequently, student achievement” (p. 497). The overall environment of School ABC provides experiences for students, faculty, and staff that are tied to their shared vision for learning.

DuFour and Eaker (1998) state that a vision “instills an organization with a sense of direction” (p. 62) and Roberts and Pruitt (2008) expand upon that definition by explaining that a collaborative, or shared, vision is a “shared image of what you desire your school to look like in the future” (p. 30). In other words, the shared vision of a school connects beliefs, values, and expectations to desired behaviors, which in turn influences the effectiveness and efficiency of school wide experiences. Fullan and Quinn (2015) state that “what we need is consistency of purpose, policy and practice” and that “the solution requires individual and collective ability to build shared meaning, capacity, and commitment to action” (p. 1).

As mentioned earlier, such experiences are made possible through school systems and structures such as grade-level hubs. Within their grade-level hubs at School ABC, educators have to rely on each other to help their students achieve academically. One teacher described how this structure has allowed them to create their own “little systems” within their hub that provided them with “extra teachable moments” for their students. She said that one teacher might be reading a book to the entire hub and that it “leaves two of us free then to pull two aside and do extra dose in density work to get them up to speed.”

Bandura would refer to these experiences as mastery and vicarious experiences. Through mastery experiences, which stem from one's own performance accomplishments, confidence is built in one's ability to accomplish difficult tasks. In contrast, vicarious experiences involve observing others achieve success which can foster a sense of belief that one can achieve similar success (Bandura, 1977, 1997).

Due to the established systems and structures, social persuasion and the power of suggestion from others can lead to the belief that one can accomplish important tasks. This process of bolstering individual teacher efficacy is more natural and authentic, and thus has a more immediate impact on collective teacher efficacy. Goddard et al. (2000) have feedback as a key component of their collective efficacy model that connects to both analysis and interpretation as well as to all four sources of efficacy information (see figure 2). We also found that due to the systems and structures in place at School ABC, feedback can influence social persuasion directly. A veteran teacher, who was new to the school, described this process as intimidating at first because the school culture promotes an "open door policy" within each hub. Once she realized that the purpose was to make her a better teacher, she said "that is a point...it is always continually happening... so you can get feedback that way." With regards to social persuasion, educators at School ABC also mentioned that they were actively involved in the feedback process. Whether it is working with their evidence assurance coach, who gives specific feedback regarding their classroom practices, or their mentor teacher, educators viewed feedback as a way to move forward. Teachers mentioned that they often invite others into their hubs as they progress along their "inquiry journey."

Through promoting a balance between work and family life, encouraging participation in sports or other forms of exercise such as morning yoga, or creating a wellness committee, whose

sole purpose is to promote teacher well-being, educators at School ABC felt that they were more effective teachers and teams when they were more in control of their affective state. This supports Bandura's (1977, 1997) findings that affective state impacts one's sense of self-efficacy due to stress, anxiety, or a sense of vulnerability. When asked about this, one educator mentioned that his team helped him realize the importance of his well-being. He said, "I couldn't see it. Because I'm like 'I can work, I can work, I can do it.' They said 'No you can't. You need a break.' They have taught me those things. It's really, really important." Another teacher even went so far as to say that "you are not good to anyone" including "your kids at home or husband or yourself" when you are too stressed.

As school leaders contemplate intentional and collaborative efforts to build collective teacher efficacy, they must take into account the fact that not all sources of efficacy information (i.e., mastery experiences, vicarious experiences, social persuasion, and affective state) have the same influence on collective teacher efficacy (Bandura, 1997). Data from our research supported Bandura's proposed differentiated influence for mastery experiences, vicarious experiences, and social persuasion but found that the focus on well-being at School ABC had significant impacts on the affective state of faculty and staff. Bandura posited that mastery and vicarious experiences have larger influences on efficacy while social persuasion and affective state have less significant and lasting impacts (Bandura, 1997).

When considering mastery experiences, three out of the five significant cultural themes (vision for learning, collaboration, and relationships) from our research have strong connections to the first-hand experiences that faculty and staff have at School ABC. Educators can also have more efficacious mastery experiences when they view themselves as learners who feel that they have administrative support to try new things, as the educators at School ABC do. Vicarious

experiences at the school, on the other hand, were almost exclusively related to the systems and structures in place at the school, which was another of the significant themes from our research. Grade-level hubs and purposeful teams fostered a greater sense of trust and learning through peer modeling and opportunities for teacher observations, thus increasing teacher capacity.

Bandura (1997) explains that social persuasion is encouraged by the beliefs or faith that others have in our abilities and that the reception of feedback depends on the credibility, trustworthiness, and expertise of those giving that feedback. The systems and structures at School ABC promoted more authentic feedback, or social persuasion, through an organized, timely, and schoolwide feedback system that utilized relationships as a key role in the willingness of educators to accept and incorporate feedback. With that said, School ABC's educators did not recognize social persuasion as having as strong of an impact on their teaching capacity as other sources of efficacy such as mastery and vicarious experiences. This did support Bandura's proposed impact of social persuasion on collective teacher efficacy. With regards to Bandura's proposed impact of affective state, our research revealed that while Bandura suggested that affective state generally has a weaker impact on efficacy, the focus on well-being at School ABC had a significant impact on teachers and their ability to teach. We feel that further research into intentional and focused well-being strategies of schools would be beneficial to determine if the affective state of educators can consistently and positively impact teacher efficacy through utilizing such strategies.

When reflecting upon the data from School ABC, it appears that most everything, from schedules to teams to learning progressions, have been intentionally designed for a more effective and lifelong learning experience, for both educators and students, thus promoting collective teacher efficacy within the school. At School ABC, it was about the first-hand

“experience” of learning, or mastery experiences. Educators learned through continual and constant vicarious experiences, where they observed peers and colleagues model best practices and proper curriculum implementation, thus increasing the capacity of educators to meet the needs of every student through a school model that embraced collaboration and well-being as a cornerstone to learning.

Conclusion

While school leaders deal with a variety of contexts and challenges within their schools, building collective teacher efficacy should be a priority. At the heart of collective teacher efficacy is the belief that educators can truly make a difference in the lives of their students. Collective teacher efficacy has a significant impact on student achievement, whether that is positive or negative, and it is directly related to the belief of the educators in the building (Bandura, 1993,1997; Goddard & Goddard, 2001; Tschannen-Moran et al., 1998).

Donohoo (2016), the director of Praxis-Engaging Ideas, Inc, stated that “fostering collective teacher efficacy should be at the forefront of a planned strategic effort in all schools and school districts” (p. 1). She continued by explaining that “given its effect on student achievement, strengthening collective teacher efficacy should be a top priority relevant to everyone in the field of education” (p. 1).

Collective teacher efficacy begins when educational institutions have a strong and purposeful culture, guided by a clear and collaborative vision for learning that all stakeholders can trust and believe in. Goddard et al. (2015) stated that “teacher collaboration is a key to the pathway from leadership to collective efficacy beliefs because it is the shared interactions among group members that serve as the building blocks of collective efficacy” (p. 504). Through intentional and deliberate cultural design, school leaders can leverage their shared vision for

learning, relationships, well-being, collaboration, and school systems and structures to increase collective teacher efficacy, thus increasing the ability of all faculty and staff to meet the needs of every student. The principal at School ABC offered this encouragement, “I do believe through really good leadership and the right culture, it can be the best job to come to every single day.”

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APPENDIX A

Review of the Literature

Introduction

In 1977, Bandura introduced the world to social learning theory and the concept of self-efficacy, the belief that one has the capabilities to organize and execute the necessary actions to attain specific goals. Since its introduction over 40 years ago, the concept of self-efficacy has influenced countless educational researchers and has been the foundation for other efficacy models, including teacher self-efficacy and collective teacher efficacy. In fact, almost every article, journal entry, or book that I read referenced the concept of self-efficacy and its four sources proposed by Bandura.

Recently, collective teacher efficacy has been at the forefront of many education circles because of its identification as the most influential effect on student learning by Hattie in 2016 (Visible Learning, n.d.-a). Basing his findings on a meta-analysis that was conducted by Eells in 2011, Hattie found that collective teacher efficacy has an effect size that is almost twice as big as feedback and almost three times bigger than classroom management.

Even though collective teacher efficacy may seem like a new concept because of Hattie's identification, the concepts of teacher self-efficacy and collective teacher efficacy have been around much longer. Teacher efficacy was introduced by Rotter in 1976 (Tschannen-Moran et al., 1998) and as education researchers attempted to measure teacher efficacy through the RAND studies. In 1998, Tschannen-Moran et al. clarified the concept of teacher efficacy and developed a clearly defined model that included Bandura's sources of self-efficacy as the sources for teacher efficacy.

Bandura introduced collective teacher efficacy in the 1990's and it shares the same foundational principles as self-efficacy but begins to focus on how the shared beliefs of a group impact student achievement. Goddard (1998) tested this precept in his doctoral dissertation and found that there is a relationship between student achievement and collective teacher efficacy. Goddard et al. (2000) later developed a collective teacher efficacy model that was based on the teacher efficacy model introduced by Tschannen-Moran et al. in 1998.

In an effort to improve student achievement and improve school efficacy, researchers have attempted to measure both teacher self-efficacy, beginning with the RAND studies in 1976, and collective teacher efficacy through the use of surveys such as the teacher's sense of efficacy scale developed by Tschannen-Moran et al. (1998) and the collective efficacy scale by Goddard et al. (2000). As with Bandura's sources of efficacy, current researchers have used these scales as the foundation for their own efficacy scales. This can be seen in the Norwegian teacher self-efficacy scale (Skaalvik & Skaalvik, 2007) and the Israeli collective teacher scale (Schechter & Tschannen-Moran, 2006).

Purpose of Literature Review

The purpose of this literature review is to contextualize the literature and make connections to the concepts and ideas that will bring my problems of practice into a more distinct focus. I will do this by identifying potential root causes of efficacy problems that will provide me with a road map that I can follow as I analyze the data from my research and work towards providing possible answers to solving the issues at hand.

As I conducted my literature review, and my study, I used a psychological framework using social cognitive theory as a foundation. This is especially important because collective teacher efficacy comes from the field of research based on social learning theory, specifically

social cognitive theory put forth by Bandura. Bandura has proposed that people learn through observing the behaviors and attitudes of others, and the outcomes of those behaviors. To explain this process of learning, he introduced the concept of self-efficacy in 1977. Self-efficacy became the foundation for a variety of models and theories relating to collective efficacy (Bandura, 1993,1997), teacher efficacy (Tschannen-Moran et al., 1998), and led to Goddard's dissertation on collective teacher efficacy (Goddard, 1998). For my research, I will be using the theoretical framework of collective teacher efficacy that was first introduced by Goddard in 1998.

Research Problem and Guiding Theory

Due to its psychological and strong, research-based foundation, I can utilize the collective teacher efficacy framework to provide me with relevant information regarding my research problem. This, in turn, will help me to effectively interpret the results. It is important to note that as an educator in a public school system, this study is intended to take the perspective of educators in a K-8 school. It is my hope that by looking at the research through this lens, I will be able to have an impact on my target audience, principals and other building leaders in K-8 schools, and that they will be able to apply the findings in a real-world setting.

I say that this research could be applicable in the real world because research has shown, and I will discuss it further along in this literature review, that collective teacher efficacy has a strong and positive correlation with student achievement. Ramos et al. (2014) reported that their meta-analysis of 12 studies investigating collective efficacy beliefs and student performance between the year 2000 and 2013 found that 100% of the studies reported a positive relationship between collective efficacy beliefs and student performance. It has also been noted that school leadership can have a significant impact on the collective teacher efficacy within a school by building instructional knowledge and skills, creating opportunities for collaboration, providing

actionable feedback on teacher performance, and involving teachers in school decision making (Brinson & Steiner, 2007).

In laying the foundation for my research, I have considered a number of variables, or sources, that have previously been proposed by Bandura (1997) to impact self-efficacy. The concept of collective teacher efficacy is based on Bandura's theory of self-efficacy and he identifies four sources of efficacy information that serve as the foundation for collective teacher efficacy development. Teacher self-efficacy is the "teacher's belief in his or her capability to organize and execute courses of action required to successfully accomplish a specific teaching task in a particular context" (Tschannen-Moran et al., 1998, p. 233) and collective teacher efficacy is considered "the perceptions of teachers in a school that the faculty as a whole will have a positive effect on the students" (Goddard et al., 2000, p. 486).

These sources of self-efficacy information include mastery experiences, vicarious experiences, social persuasion, and the affective state of an individual. All of these combined act as the source of information that helps an individual construct their beliefs about their personal efficacy, as well as the efficacy of the collective group they are a part of (Bandura, 1997). Mastery experiences are experiences that serve as indicators of one's ability to perform a task (Bandura, 1997), while vicarious experiences are experiences that impact efficacy beliefs through observation and comparison to trusted peers and colleagues. Social persuasion occurs when efficacy beliefs are shaped by the beliefs that trusted others have in our abilities. The affective state of an individual is a source of efficacy that is dependent on one's physiological and emotional state of being.

Challenges and Problems Within the Research

Even though there is an extensive amount of research that has stated collective teacher efficacy is effective in promoting student achievement, it is important to point out a number of challenges and problems that need to be considered moving forward with this literature review. These challenges and problems aren't being pointed out to undermine the research on collective teacher efficacy but instead are meant to help highlight the need for this study and my research.

Goddard et al. (2004) pointed out that collective teacher efficacy can be measured in several ways, including as the aggregate of teacher self-efficacy (I-referent statements) or as the aggregate measures of individual perceptions of group-referent capabilities (We-referent statements). This is an important concept and allowed me to be more mindful and intentional as my research team developed the interview questions and helped me determine the direction of my research questions.

Another important fact is that the majority of research conducted on collective teacher efficacy has focused on U.S. teachers (Minett, 2015). Because context does matter within the development of collective teacher efficacy (Minett, 2015), more studies outside of the U.S. are required to identify consistent sources of efficacy within a more global educational context.

In conducting my literature review, it was interesting to note that most research on collective teacher efficacy has been conducted using quantitative methods. Due to the lack of qualitative studies on collective teacher efficacy, which would allow researchers to hear from educators within specific educational contexts, it can be difficult to ascertain "how" the sources of teacher self-efficacy and collective teacher efficacy are developed and influenced.

Challenges With Collective Teacher Efficacy and School Leadership

While there is a general understanding of Bandura's four sources of efficacy information, teacher self-efficacy, and collective teacher efficacy, school leaders often don't have a very sound understanding of what these concepts look like within the specific context of their schools. Without a clear understanding of how the sources of efficacy apply within their school environments, school leaders will continue to struggle to identify evidence of teacher self-efficacy and/or collective teacher efficacy, and thus won't be able to develop effective systems that reduce teacher burnout and enhance teacher performance. Until school leaders have a sound understanding of Bandura's four sources of efficacy, school leaders may continue to create education systems that may foster poor student outcomes through a lack of collective teacher efficacy. With a deeper understanding of such sources, school leaders will be able to connect specific, collective actions to foundational efficacy beliefs that will increase student achievement.

Problems of Practice

As I conducted my literature search, I found that the majority, if not all, of the researchers based their teacher efficacy and collective teacher efficacy models on Bandura's sources of efficacy. This, in itself isn't necessarily a problem but while Bandura identifies the sources of efficacy, Tschannen-Moran and Hoy (2007) point out that there is still a need to further research what concepts, actions, practices, etc., that impact Bandura's sources of efficacy. Minett (2015) supports this statement by saying that a possible aspect that is underdeveloped in research investigating the sources of efficacy beliefs is the relevance of contextual factors in the formation of efficacy beliefs" (p. 48). It is my hope that this research will bring further clarification to the impacts of context on the sources of efficacy and help identify critical themes that school leaders

can leverage to increase student achievement and increase their ability to influence efficacy factors. In order to accomplish this goal, I will focus on the following research question throughout my research: What aspects of culture support collective teacher efficacy at School ABC?

This question addresses the research problem that student achievement can suffer if teachers have low self-efficacy and if teams have low collective teacher efficacy. By identifying themes that impact the sources of collective teacher efficacy, school leaders will better understand how to influence these factors which can potentially increase student achievement.

It is my hope that school leaders in K-12 buildings will gain insights that will help them increase the collective teacher efficacy within their school by leveraging the possible factors that influence individual teacher efficacy and contribute to the collective teacher efficacy within School ABC.

Literature Review

In order to conduct my literature review, I used mainly online resources and printed material. The online resources came from peer reviewed and professional journals such as the *Review of Educational Research*, *The American Educational Research Journal*, and *Leadership and Policy in Schools*. Printed materials included books such as *Self-Efficacy: The Exercise of Control* by Bandura (1997) and *Visible Learning: A Synthesis of over 800 Meta-Analyses Relating to Achievement* by Hattie (2008).

In the beginning of my literature review, I used databases and query methods presented by Rachel Wadham at the Harold B. Lee Library at BYU to help me get started with my research. These databases included ERIC (EBSCO), ERIC (ProQuest), and Google Scholar. My query methods included using boolean operators and connectors (AND or NOT) and searching

for specific phrases using quotation marks. As my literature review progressed, I began to identify literature resources that were foundational to the authors purpose and that were also commonly used to support research on teacher self-efficacy and collective teacher efficacy.

Patterns and Trends in Research

While I conducted my literature search, a number of patterns in teacher self-efficacy and collective teacher efficacy research have emerged. These patterns include use of Bandura's research on self-efficacy and collective efficacy as the basis for almost all efficacy research and use of the conceptual framework established by Tschannen-Moran et al. (1998) and Goddard et al. (2000) as the foundational model for their own models.

My concern with using the conceptual framework of Tschannen-Moran et al. (1998) and Goddard (1998) is that it most research being conducted is quantitative. These studies were done using surveys, such as the teacher's sense of efficacy scale developed by Tschannen-Moran and Hoy (2001), and then analyzed using factor analysis to determine how the teachers responded to the survey. I believe that this highlights another significant pattern which shows that there is a lack of qualitative research studies regarding collective efficacy and the influences of culture on efficacy that could possibly provide other alternative sources and models for efficacy.

Self-Efficacy

In his groundbreaking paper on self-efficacy, Bandura (1977) introduced the concept of self-efficacy and the four sources of information that impact changes in self-efficacy and behavior. He explained that "efficacy expectations are a major determinant of people's choice of activities, how much effort they will expend, and of how long they will sustain effort in dealing with stressful situations" (Bandura, 1977, p. 194). Self-efficacy plays an important role in

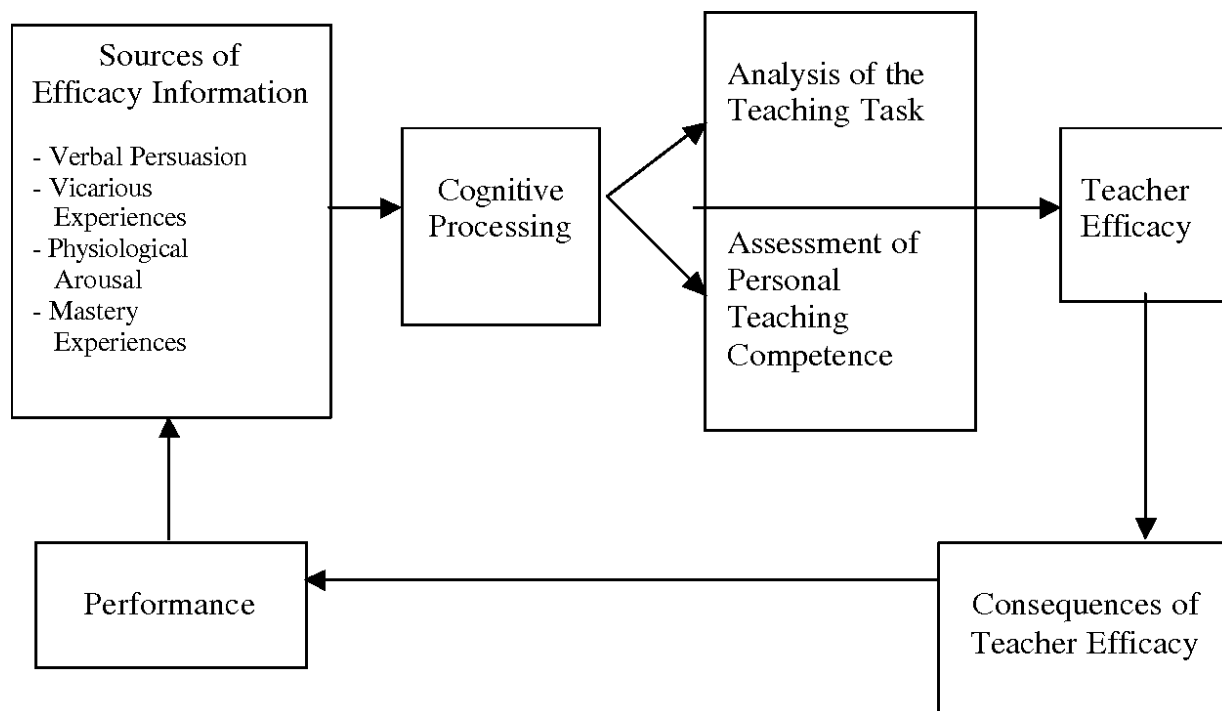
helping people make important choices because “efficacy beliefs are the foundation of human agency” (Bandura, 2001, p.10).

As people grow cognitively, self-efficacy plays an important role. In education, there are three different levels at which self-efficacy operates, including students, teachers, and faculties (Bandura, 1993). At each level, beliefs play a crucial role in developing self-efficacy and can impact levels of achievement. Human agency or the belief “that they can produce desired effects and forestall undesired ones by their actions” (Bandura, 2000, p. 75), can lead to increased self-efficacy as people develop confidence in their own abilities.

Teacher Self-Efficacy

In 1998, Tschannen-Moran et al. published a paper, *Teacher efficacy: It's meaning and measure*, that has had a significant impact on our current understandings of teacher self-efficacy. Based on over 20 years of research, from 1974 to 1997, the authors focused on the work of Rotter and the RAND studies (Armor et al., 1976), where teacher efficacy was first conceived in 1976, as well as the work of Bandura. According to the authors, teacher efficacy is related to achievement, motivation, and sense of efficacy (Tschannen-Moran et al., 1998). Teacher self-efficacy is also related to teacher behavior in the classroom and the effort they put into teaching.

It was in this paper that Tschannen-Moran et al. (1998) shared their cyclical nature of teacher efficacy model and diagram. This model has been the foundational model for other researchers.

Figure A1*Cyclical Nature of Teacher Efficacy*

Note. (Tschannen-Moran et al., 1998, p. 228)

Lev and Koslowsky (2009) looked into the relationship between three components of teacher self-efficacy (i.e. instructional, social, and management) and collective teacher efficacy. Instructional efficacy is the belief that you have a significant impact on student learning in your classroom. Social efficacy is the belief that a teacher can enhance social relationships of students. Management efficacy is the belief that a teacher can effectively manage both the classroom and discipline within the classroom. An interesting proposal in this study was that “self-efficacy will either be enhanced or attenuated by perceptions of collective capability” (p. 453).

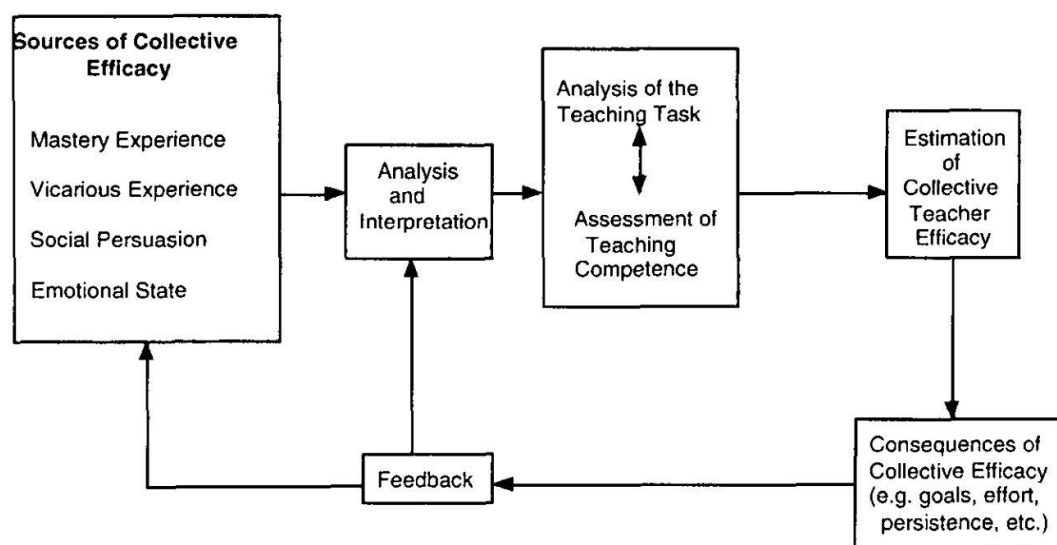
Collective Teacher Efficacy

Beginning in 1998, following Bandura’s admonition that more research was needed about “the measurement and effects of collective efficacy” (Goddard et al., 2000, p. 467), researchers

like Goddard et al. (2000) began to research this concept of collective teacher efficacy, and over the last 20 years have influenced researchers and educators in the pursuit of increased teacher efficacy. For example, based on Bandura's formulation of self-efficacy and Tschannen-Moran's model of collective efficacy, Goddard et al. (2000) developed their own model of collective efficacy and suggested that "collective efficacy is an extension of individual teacher efficacy" (p. 503).

Figure A2

Simplified Model of Teacher Efficacy



Note. From Goddard et al. (2000)

While often difficult to develop, Goddard et al. (2000) argue that high levels of collective teacher efficacy should thrive once the social perceptions, or beliefs, are established. In order to accomplish this, two key elements are postulated for developing collective teaching efficacy: analysis of teaching tasks and assessment of teaching competence (p. 485). By analyzing a teaching task, teachers are able to cognitively assess the required skills that students must have and then scaffold their instruction to help students be successful on such tasks. At the same time,

teachers must be able to assess their ability to teach that task or to help students learn the required information. This is also a cognitive skill and requires teachers to be intentional in their efforts as they honestly assess their own abilities.

It is important to note before continuing that collective efficacy isn't unique to education. In fact, research has been conducted in other fields besides education, such as business and sociology, and "collective efficacy beliefs are strongly related to other important group outcomes such as work group effectiveness and neighborhood safety" (Goddard et al., 2004, p. 3). At the heart of this research about collective efficacy is the important concept of group outcomes and what collective efficacy can help accomplish. Bandura's original definition of collective efficacy is "a group's shared belief in its conjoint capability to organize and execute the courses of action required to produce given levels of attainment" (Donohoo et al., 2018, p. 41). In business, collective efficacy can help increase production and thus increase business revenue. In education, collective teacher efficacy is about fostering student learning and increasing student achievement.

Student Achievement and Collective Efficacy

In 2008, Hattie, then a professor of education at the University of Auckland, published one of the most influential books on educational research in the last 10 years. In *Visible learning: A synthesis of over 800 meta-analyses*, Hattie synthesized years of research to determine the most influential factors on student achievement and learning. In his research, Hattie established Cohen's $d=0.40$ as the average effect size, or in his words the "hinge point," as to what is most effective in helping students learn. In the beginning of his research, Hattie identified 138 factors that impact student achievement and proposed that self-reporting grades for students had the greatest impact on student achievement with an effect size of $d=1.44$. Hattie continued to

conduct research and in his most recent findings from 2018 (Visible Learning, n.d.-b) he has updated his list to include 252 factors and proposed that collective teacher efficacy has an effect size of $d=1.57$, which is almost four times the average effect size of $d=0.40$. Hattie has recognized Eells and her dissertation on collective teacher efficacy as the foundation for this expansion in identified factors.

When Eells conducted her dissertation, *Meta-analysis of the relationship between collective teacher efficacy and student achievement*, she conducted the first ever meta-analysis to determine the relationship between collective teacher efficacy and student achievement (Eells, 2011). Using meta-analysis, she synthesized data from 26 studies so that “the relationship between collective teacher efficacy and student achievement could be more fully understood” (Eells, 2011, p. 73). Eells was able to determine that there is a strong correlation between student achievement and collective teacher efficacy, and “as collective teacher efficacy increases, so does achievement” (Eells, 2011, p. 109).

Even though Eells’ dissertation was the first meta-analysis on collective teacher efficacy, it wasn’t the first to address collective teacher efficacy and the impact on student achievement. In his doctoral dissertation, Goddard (1998) set out to test the hypothesis that the effectiveness or “collective teacher efficacy is positively related to between-school differences in student achievement” and that the equitable or “collective teacher efficacy attenuates the association between student socioeconomic status and student achievement” (p. ii). In order to test these hypotheses, Goddard developed a collective teacher efficacy scale based on the model of teacher efficacy developed by Tschannen-Moran et al. (1998). His findings were consistent with his hypothesis that “collective teacher efficacy is positively associated with between school variance in both mathematics and reading achievement” (p. 126). His second hypothesis, however, was

not supported because “collective teacher efficacy did not attenuate the positive relationship between student achievement and [socioeconomic status] among schools” (p. 127).

Connecting Teacher Self-Efficacy and Collective Teacher Efficacy

In conducting my research, it became very apparent that beliefs play an important role in teacher self-efficacy because “teachers’ beliefs influence their actions toward students, which, in turn, influence students’ beliefs about their own abilities” (Donohoo & Katz, 2017, p. 21). This statement is supported by over 20 years of research that has shown that teacher behaviors are related to teacher perceptions of their self-capability to educate students (Goddard & Goddard, 2001). This is an important finding, especially in schools that serve at-risk populations because there is no correlation between collective teacher efficacy and socioeconomic status (Tschannen-Moran & Barr, 2004). Schools that serve lower socioeconomic status populations don’t have lower collective efficacy beliefs and schools that serve higher socioeconomic populations don’t necessarily have higher collective efficacy beliefs.

When faculties have a high sense of collective efficacy, Tschannen-Moran and Barr (2004) explain that it can impact student achievement by influencing the social norms, behaviors, beliefs, and actions within a school. They state that “by influencing teacher behaviors, collective efficacy beliefs influence student achievement” (Tschannen-Moran & Barr, 2004, p. 191).

In order to analyze the relationship between teacher self-efficacy and collective teacher efficacy, it is important to consider that while a teacher’s efficacy belongs to the teacher, collective teacher efficacy is “property of the school” (Tschannen-Moran & Barr, 2004, p. 191). In other words, teachers themselves play a key role in developing their own efficacy but in order to develop collective teacher efficacy, teachers need to take ownership of the teaching and learning within their building. Goddard and Goddard (2001) note that evidence shows “that the

variation between schools in teacher efficacy may be explained by the collective efficacy of a school” because “teacher efficacy was higher in the schools where collective efficacy was higher” (p. 816).

The next key point is to understand that there is a reciprocal relationship between student achievement and teacher efficacy, and this relationship can be either positive or negative. The research also suggests “that a strong sense of collective efficacy enhances teachers’ self-efficacy beliefs while weak collective efficacy beliefs undermine teachers’ sense of efficacy, and vice versa” (Goddard et al., 2004, p. 9).

Measuring Collective Teacher Efficacy

Beginning with the RAND studies in 1976, researchers have been trying to measure teacher self-efficacy and collective teacher efficacy. Whether it was using the two items from the original RAND studies (1976) or the 30-item teacher efficacy scale developed by Bandura (1997) or the 24-item teacher’s sense of efficacy scale by Tschannen-Moran et al. (1998), researchers have set out to improve student achievement through increased teacher efficacy.

However, the problem with trying to compare and connect individual teacher and collective teacher efficacy is two-fold. First, even though there have been instruments that have been designed to measure individual teacher or collective teacher efficacy, it has been difficult to compare the relationship between individual teacher and collective teacher efficacy (Goddard & Goddard, 2001).

The second problem is that there are multiple methods for determining collective teacher efficacy. While this in itself is not an issue, the problem arises when there is a lack of consistency between using the methods to determine efficacy. The first method focuses on the aggregate measures of individual self-efficacy or in other words, to aggregate each individual

members' assessment of their own personal efficacy and their ability to perform in the group. The next method is to aggregate each members' assessment of the group's ability to be successful or to aggregate measures of individuals' perceptions of group-referent capability. The final method is to ask group members to "discuss their group capabilities together and come to a consensus about their sense of collective efficacy" (Goddard et al., 2004, p. 6).

When looking at these three methods of determining collective efficacy, most researchers use the first two methods to guide their research. Regardless of what method researchers use, it is important to note that the findings, as a whole, show that "the higher the perceived collective efficacy, the higher the groups' motivational investment in their undertakings, the stronger their staying power in the face of impediments and setbacks, and the greater their performance accomplishments" (Bandura, 2000, p. 78).

Influencing and Impacting Collective Teacher Efficacy

As an educational leader in a highly impacted Title One school, the concept of collective teacher efficacy and the impact that it can have on student achievement in my school plays an important role in everything that I do. One of the goals of this study is for the findings to impact the way that other school leaders guide their schools. Tschannen-Moran and Gareis (2004) found, when studying principal efficacy, that "what principals do is a direct consequence of what and how they think" (p. 573).

With that said, research has shown that school leaders can support collective teacher efficacy in a number of ways. For the purpose of this paper and my literature review, however, I focused on the important role that school leadership plays in developing and fostering this belief. Goddard et al. (2015) found that "teacher collaboration is a key to the pathway from leadership

to collective efficacy beliefs because it is the shared interactions among group members that serve as the building blocks of collective efficacy” (p. 504).

Leadership

Brinson and Steiner (2007) advocate that school leaders should improve the collective teacher efficacy in their schools because it improves student performance, ameliorates the negative effects of low socioeconomic status, enhances parent/teacher relationships, and creates a work environment that builds teacher commitment to the school.

In 2015, Goddard et al. looked at the relationship between instructional leadership, teacher collaboration, and collective efficacy beliefs, and how they impact student learning. In order to do this, they examined how school leadership affects the way that teachers collaborate together in an effort to improve instruction. According to their findings, principals’ instructional leadership can predict collective efficacy beliefs by impacting teachers’ collaborative work. This in turn impacts greater levels of student learning because it increases the sense of collective efficacy among the teachers in a school. A principal’s knowledge of teaching and learning are crucial in developing and promoting structures, such as teacher collaboration, that will increase teacher efficacy and collective efficacy. When principals act as instructional leaders, there is a significant impact on collective efficacy beliefs because it influences their collaborative work.

When considering the impact of teacher collaboration on collective teacher efficacy, it is important to realize that some researchers believe, and I stated this earlier in this literature review, that while teacher’s collective efficacy belongs to the teacher, collective teacher efficacy is “property of the school” (Tschannen-Moran & Barr, 2004, p. 191). This concept of ownership, while certainly a trait of an effective teacher, can only be effective at a school level if teachers are committed to their students (Lee et al., 2011).

Conclusion

As I set out to conduct my literature review on collective teacher efficacy, I felt like I had a pretty good handle on my understanding of what collective teacher efficacy was and how to use it effectively in my school. I had been an elementary principal for a number of years and had successfully led a struggling school through a mandated program improvement. As you can imagine, I quickly learned that I had very little understanding of what it truly was and the impact that it could truly have on students. In hindsight, the biggest thing that I had going for me was that I believed, and now I am certain, that we could make a difference in the lives of our most struggling students. Luckily for me, Bandura (1997) says that “people’s level of motivation, affective states, and actions are based more on what they believe than on what is objectively true” (p. 2).

At the heart of teacher self-efficacy and collective teacher efficacy is belief. Research (Bandura, 1993, 1997; Goddard & Goddard, 2001; Tschannen-Moran et al., 1998, p. 233) shows that collective teacher efficacy has a significant impact on student achievement, whether that is positive or negative, directly related to the belief of the educators in the building.

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APPENDIX B

Extended Methods

For this study, our research team conducted semi-structured interviews with the faculty and staff at School ABC. The principal of School ABC was contacted via both email and phone calls to coordinate our research study and to obtain permission to conduct the research in the school. Interviews were conducted in an individual, open-ended question format with one member of our four-member research team. Using a series of questions that were developed using other teacher and collective efficacy scales as a guide, interviewers met with individual faculty and staff for a period of 25-30 minutes.

Participants

Individual interviews were conducted with faculty and staff members of the School ABC. The principal of School ABC approached her faculty and staff and invited them to participate in the interviews. Interviews were conducted with 32 out of the 39 members of the school faculty and staff at that time, including the principal, school administration (assistant principals, etc.), teachers, and some classified personnel. We interviewed four male educators and 28 female educators. Table 1 contains a summary of the interviews conducted.

Table 1

Respondents by Type

Type	Interviews	Number of Respondents
Principal	In-depth (90 minutes)	1
School Administration	Intermediate (25-30 minutes)	3
Classified Personnel	Intermediate (25-30 minutes)	2
Teachers	Intermediate (25-30 minutes)	26
Total		32

Procedure(s)

While we attempted to conduct a census of the faculty and staff, due to the voluntary nature and timing of the interviews, we ended with a convenience sample where the school administration invited the faculty and staff who were willing to be interviewed. In order to maintain consistency throughout the interviews and between members of the research team, protocols were established to ensure the credibility of the research process. These included having each interviewee sign the consent document before beginning the interview, audio recording each interview, and using the same instrument and questions for each interview. Interviews were later transcribed by the research team.

Instrument

Interview questions were written and developed specifically for the educators at School ABC by our research team. Questions were based on teacher and collective teacher efficacy research literature, and as previously mentioned, measurement instruments such as Tschannen-Moran and Hoy's teacher sense of efficacy scale (1998) and Goddard et al.'s collective teacher efficacy scale (2001) as a guide. Our instrument consisted of eight questions regarding their experience(s) as an educator, their work life at School ABC, and the impact they feel they have on the teaching and learning at School ABC.

Data Analysis

In order to process and analyze the interview data, interviews were recorded and later transcribed by the research team. During the interviews, each researcher took notes, which were later compared to the transcribed interviews. The research team met immediately after completing the interviews at School ABC to discuss initial thoughts and to identify potential themes and patterns. This discussion was recorded, transcribed, and used in this data analysis to

compare initial research team impressions to our own coded data during the axial coding phase of our research. This fostered a deeper sense of understanding with our findings, especially when considering similarities between initial team impressions and our thorough coding.

We used the NVivo 11 software, a qualitative analysis software program released in 2015, to conduct several cycles of data analysis based on methods of grounded theory, which focuses “on inductively generating novel theoretical ideas or hypotheses from the data as opposed to testing theories specified beforehand” (Gibbs, 2007, p. 49). As suggested by Corbin and Strauss (1990), data analysis included cycles of open coding, axial coding, and selective coding. For the purpose of our research, the threshold of 60% or higher was used to identify significant relationships while the thresholds of 30% to 59% were used to identify notable relationships (Greckhamer et al., 2018).

Introduction

In order to determine themes for my coding, I focused on my research question throughout all three phases of coding. My research question is:

What aspects of culture support collective teacher efficacy at School ABC?

I found that my research question helped me to be stay grounded in my purpose for coding and led me to themes that are more relevant and meaningful to my research. I also found that my open coding was mainly focused on my primary question of looking for possible themes and so my coding focused solely on looking for those themes in the interviews during the coding process. This focus provided me with numerous codes and themes that became significant factors in my analysis.

It wasn't until I started my axial coding that I began to see the possible relationships between the discovered themes and Bandura's sources of efficacy. This pushed my thinking

about these relationships and brought a deeper clarity to my research as I came to understand how certain factors of school culture are able to more effectively support different sources of efficacy.

By coming to understand these relationships, the selective coding process allowed me to look at the relationships between possible factors and sources of efficacy and define, with more clarity, the most pertinent themes to my research. In essence, by following the three phases of coding, I was led back to my primary research question and was able to identify what I consider to be the most relevant themes from our research.

Process of Determining Themes

As mentioned in the introduction above, I used open coding, axial coding, and then selective coding to identify and validate the main themes related to my research question. The purpose of this section is to explain the steps I took during each coding phase.

Open Coding

I'll have to admit that this was the most intimidating and difficult part of the coding process. I wasn't very confident in properly identifying nodes, codes, and themes, and so I found myself overwhelmed and intimidated by the sheer amount of information contained within each interview. It wasn't until I started to focus on key concepts, phrases, and themes that I became more confident.

In order to keep myself organized, I coded all interviews alphabetically by first name, excepting the interview with the principal, which I saved for last. Going alphabetically allowed me to keep track of my progress as I proceeded down the list of interviews. I followed this process until I had finished coding all of the interviews. Once the initial coding was finished, I open coded the principal's interview, looking for similarities within the nodes. I found this to be

a fascinating experience because I was able to compare what the principal felt was key to the success at School ABC with what the rest of the school felt. Even though the questions for the principal were different, I felt that the key concepts were true to our research. I will speak more about coding that interview and comparing it to others down below in my section on Axial coding.

In each interview that I open coded, I went through the interview and identified phrases or themes that were mentioned by the interviewee. I create a node for each of these themes and wrote a simple, working definition for each node. These definitions played an important role in helping keep distinct themes separate during this coding process.

As I progressed, I found that my coding began to follow the pattern and sequence of our interview questions. Even though I didn't set out to use the questions as main nodes, I found that our questions soon became an organizational strategy that helped me identify specific themes regarding the sources of efficacy. For example, our question regarding how teachers manage stress helped identify specific nodes that are related to the affective state and social persuasion.

Once I had open coded and identified all the potential themes and nodes, I first used the number of sources to identify major themes, followed by the number of references, to identify the most important themes. This allowed me to see which themes were mentioned more frequently than others and provided me with a good baseline for my principle themes.

One of the most important things that our research team did was to hold a debrief at the end of our research experience to discuss and talk about our initial thoughts. Even though I wanted to open code our debrief at the beginning of my open coding, I waited until after I had open coded the interviews. Waiting to code the debrief served two purposes.

The first purpose was that waiting to code the debrief helped me to validate and challenge my open coding when I compared to the open coding of the debrief to the open coding I'd completed on the interviews. I say this because the debrief was a great opportunity for me to see if my coding was in alignment with the thoughts of everyone else, and if it wasn't, I could go back and really think about why the themes may not have been in alignment.

The second purpose was that I was afraid that if I coded the debrief at the beginning, that it would influence my open coding process, that I would focus mainly on those themes that we as a group had identified. While this isn't necessarily a bad thing, I felt that we were each looking at the interviews from the perspective of our own research questions. With different research questions, we were each evaluating the interviews through specific lenses and so I felt that I needed to hold off and code according to my research questions. Then, with my uninfluenced coding completed, I could better compare my codes and themes to those I found in the debrief.

In comparing the themes that were identified in my initial open coding to the debrief open coding, I would say that our coding was fairly similar but that we used different language or terms to describe the themes. For example, our debrief identified agency as one of the strongest themes in our interviews yet my open coding identified teacher voice and teacher ownership as prominent themes without necessarily calling it agency. In my opinion, teacher voice and teacher ownership could very well be considered agency.

Through my initial open coding, I identified the following pre-dominant themes:

- **Growth Mindset or Learner Mentality** ($n = 17, 24$ references). Educators viewed themselves as learners who grow from experience, collaboration, and professional development.

- **Belief and Confidence** ($n = 14$, 26 references). Educators mentioned that their successful past/current experiences have built their belief and confidence in their ability to meet the needs of their students.
- **Relationships** ($n = 25$, 58 references). Educators discussed the role the relationships with their peers, students, and school administration.
- **Partnerships** ($n = 24$, 53 references). Educators mentioned the partnerships between community, parents, and students.
- **Collaboration** ($n = 19$, 36 references). Educators discussed the role that collaboration plays in building their collective teacher efficacy.
- **Well-being** ($n = 20$, 32 references). Educators mentioned intentional well-being strategies that help them relieve/prevent stress.
- **Teacher Voice** ($n = 18$, 24 references). Educators mentioned the value of having a voice in school wide decisions.
- **Teacher Ownership** ($n = 15$, 19 references). Educators discussed feeling empowered and taking ownership of the things that were going on in the school.
- **Culture** ($n = 18$, 26 references). Educators mentioned how the culture of the school fostered both teacher and student achievement.
- **Peer Modeling/Teacher Observations** ($n = 21$, 23 references). Educators discussed the how being able to see others model best practice in real time and real classrooms impacted their collective teacher efficacy.
- **Team** ($n = 14$, 20 references). Educators mentioned the role that the team plays in building their collective teacher efficacy.

- **Tools and Opportunities to Learn** ($n = 11$, 19 references). Educators discussed how the school provides tools and opportunities for both students and educators to learn and improve.
- **Philosophy/Vision of Learning** ($n = 24$, 39 references). Educators discussed the impact of the mission and vision of the school.
- **School Environment** ($n = 15$, 21 references). Educators mentioned how the physical, emotional, and cultural environment fosters and supports their collective teacher efficacy.
- **School Systems/Structures** ($n = 15$, 15 references). Educators discussed how the structures and systems of the school fosters collective teacher efficacy.

Once I had concluded open coding, I found that I needed a way to be able to visually see what had been coded. Due to the number of nodes that I had created, it was difficult for me to analyze, compare, and simplify all of the nodes. In talking to a fellow researcher, they mentioned that they had used sticky notes to help organize their nodes in a visual way around the room and office. I wasn't able to use sticky notes, but I was able to use Lucid Chart, a browser-based diagramming software made by Lucid Software Inc., to create charts that I was able to print out and physically manipulate. This was extremely helpful as I looked for commonalities between nodes and themes.

The first thing I did was remove the broad themes that were based on the interview questions I had assigned during my initial organization. While this may seem counter intuitive, I found that coding solely based on the questions narrowed my thinking to such a degree that potential connections between nodes could have been missed because I continued to try and keep themes and nodes isolated to their particular questions. For example, the concept of well-being

was brought up numerous times throughout my coding process, but every time I went to condense my coding, I would look at the managing stress node and try to force it into the question. This was very frustrating, and I soon realized that I couldn't force the story of my questions from the data. Instead, I needed to find the story within the data.

I quickly realized that once I had removed these question nodes, I was allowed the freedom to look for similar nodes and concepts throughout all of the coding. By manipulating my original Lucid Chart, I was able to group and cluster similar nodes based on my initial identification for each individual node. For example, I placed all of the nodes that dealt with relationships in one group and then I placed all of the nodes that dealt with culture in another. I continued this process until I felt that all of the nodes had been grouped according to similar concepts.

Once I had grouped and clustered similar nodes together, I went back to NVivo and looked at my initial definition for each node in order to compare it to what I had coded under each node. This allowed me to tighten up each definition and brought a renewed understanding to my coding as I re-read each coded section of each interview. By doing this, I was able to condense and combine nodes into a more concise and precise version of each node.

Axial Coding

As I began my axial coding, and began to look for relationships between nodes, I found myself reflecting on my research question. During the open coding process, I felt that I had started to determine a number of potential themes for both the concept of collective teacher efficacy and for the four sources of efficacy. I also realized that a number of nodes could be factors for multiple sources of efficacy, so it was important that I came to a better understanding

of the relationship between nodes. In an effort to accomplish this, I did my best to look at the following:

- Relationship #1- How were the nodes related and what would be the main theme that brought them together?
- Relationship #2- Once I had identified the main theme, was there a potential relationship between that main theme and a source of efficacy? If there was a potential relationship, what was that relationship?

By scaffolding these questions, I found that my axial coding took on deeper meaning and brought a greater understanding to my research questions.

To be honest, I tried using a number of NVivo tools such as word clouds and queries but I found the best way for me to analyze the relationship between the clustered nodes was to review my initial coding/definitions and then re-read each definition and coded interview. Even though it was much more time consuming, I feel the following themes appropriately reflect on my research question concerning the aspects of culture that supported collective teacher efficacy at School ABC.

Themes

Systems and Structures

This node was coded for when interviewees referenced school systems such as teacher and collaborative coaching, feedback, and professional development that promoted academic progress. This also includes systems and structures such as assessments, interventions, and reteaching opportunities. This node was at 97% (31/32) and had 120 references.

Relationships

This node was coded for when interviewees discussed the important role that relationships play in the success of their school. This could refer to the relationships between students-educators, educators-educators, and even educators-administration. Teams and trust played a crucial role in this area. This node was at 97% (31/32) and had 98 references.

Collaboration

This node was coded for when the interviewees mentioned how collaboration impacts their individual and collective efficacy. This includes the role that communication plays in collaboration, especially when working with others with different points of view. This node was at 75% (24/32) and referenced 56 times.

Shared Vision for Learning

This node was coded for when interviewees mentioned how beliefs, values, and expectations connected desired behaviors. This included the VIBES team and development of the shared vision for learning. This node was at 75% (24/32) and was referenced 39 times.

Well-Being

This node was coded for when interviewees referenced concepts that helped them maintain happiness and health as educators. This node also refers to finding a balance between teaching and one's family life and staying healthy through deliberate and intentional practices in the school setting as well as in the educator's personal life. This node was at 81% (26/32) and had 59 references.

Selective Coding

Once I had coded and answered my first research question, I was able to return to my coding and look for relationships within my themes and the four sources of efficacy. In order to

do this, I once again returned to my NVivo coding and this time began to code for relationships between my identified themes and Bandura's four sources of efficacy. According to this final round of coding, I was able to identify the following themes or factors that have strong relationships with the four sources of efficacy.

Mastery Experiences

Mastery experiences, considered the most influential and powerful source of self-efficacy, are first-hand experiences where individuals have succeeded or failed at a specific task or goal, and then viewed that success or failure as indicators of capability (Bandura 1977, 1997). The concept of firsthand experiences was crucial in determining these relationships. In meeting with Pam and Sterling, they pointed out it was important to distinguish between themes that promote mastery experiences and those themes that are actual mastery experiences. For example, I was able to identify that culture ($n = 31$), shared vision for learning ($n = 24$), and collaboration ($n = 24$) are all themes that promote mastery experiences at School ABC. However, it was important to identify experiences that teachers were discussing in order to support these findings, so I returned to my coding once again, this time focusing on specific experiences that educators mentioned within their interviews. This process was repeated for each of the four sources of efficacy.

It is also important to note that collaboration is such an integral part of the school that educators mentioned how collaborative experiences influenced their collective team efficacy in all four sources of efficacy. Instead of just focusing on collaboration in one of the four sources, I was able to identify collaborative experiences for all four sources of efficacy.

Culture

Culture is defined as “the way teachers and other staff members work together and the set of beliefs, values, and assumptions they share” (ASCD, n.d.). As I coded for this definition, I found that educators discussed experiences where they had the opportunity to share their opinions and expertise. Educators explained that their teacher voice ($n = 18$) was valued by the school administration and that they felt that open communication was crucial to school success. This included having access to the school administration, especially the school principal, and being able to participate on school committees. For many educators at School ABC, knowing that their voice matters led to taking ownership ($n = 15$) for not only their grade-level hubs but also for what is happening in the entire school.

Shared Vision for Learning

The vision of learning within a school connects beliefs, values, and expectations to desired behaviors. During the interviews, it became apparent that their vision for learning ($n = 24$) was their foundation and driving force, and that it gave them a common identity. Educators discussed experiences where they were able to participate in the development of a collaborative school vision and help design how the current supports, such as the VIBES (Vision Instigators, Belief Enablers) team, helped keep that vision for learning at the forefront of everything that they did. Educators also mentioned specific supports, such as a learning journey, and school expectations that promoted this vision for learning.

Vicarious Experiences

Vicarious experiences are experiences that a person has through observing those around them and are largely dependent on the credibility, trustworthiness, and expertise of those who are serving as potential role models. In coding for vicarious experiences, there were a number of

themes that had important relationships with the sources of efficacy. Educators mentioned how the trust within their teams ($n = 14$) allowed them to learn from each other in a more authentic manner. Through peer modeling ($n = 12$) and teacher observations ($n = 9$), educators seem to be having vicarious experiences on a daily basis. This is especially due to the structure of the grade-level hubs at School ABC.

Grade-Level Structure

Instead of following a traditional grade-level structure, School ABC established grade-level learning hubs ($n = 25$). Each hub consists of two to four teachers who collaboratively teach grade-level students. Many educators, both novice and experienced, discussed how this collaborative teaching model provides them with continuous opportunities for modeling and observations.

Social Persuasion

Social or verbal persuasion focuses on the social influences within an educational setting and “is dependent on the beliefs that others have in our abilities” (Goddard, 1998, p. 20). Often given through feedback, the impact of social persuasion, which is not as strong as mastery or vicarious experiences, also depends on the credibility of the person giving the feedback. Due to the strong levels of trust within School ABC, educators discussed the important role that feedback has on their collective teacher efficacy. Through supports such as collaborative coaching ($n = 15$), where coaching focuses on team coaching instead of individual coaching, feedback ($n = 11$) becomes more meaningful as teachers actively engage in the learning process.

Affective State

Affective and physiological states are the moods, emotions, and physical states that impact the exercise of personal control through thoughts, actions, and affect. Referred to as well-

being ($n = 26$) at School ABC, educators mentioned how the school has intentional practices, strategies, and resources that promoted higher levels of a person's well-being or affective state.

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<https://doi.org/10.3102%2F00346543068002202>

APPENDIX C

Consent/Institutional Review Board Approval Letter

From: Human Subjects Committee <irb@byu.edu>

Date: Tuesday, September 4, 2018 at 9:08 AM

To: Pamela Hallam <pam_hallam@byu.edu>, Sam Brown <samuel_brown@byu.edu>

Subject: X17319 PI: Pamela Hallam IRB Determination: AMENDMENT APPROVAL

Memorandum

To: Professors Hallam and Brown

Department: EDLF

College: EDUC

From: Sandee Aina, MPA, IRB Administrator

Bob Ridge, PhD, IRB Chair

Date: September 4, 2018

IRB#: X17319

Title: *"Propensity to Trust and Trust Development Among Higher Education Students and Faculty in New Zealand"*

Brigham Young University's IRB has reviewed the amendment submitted on August 31, 2018. The IRB determined that the amendment does not increase risks to the research subject and the aims of the study remain as originally approved. The amendment has been approved. The revised consent statements and recruiting scripts have been approved and stamped for your files.

The approval of this protocol expires on **October 4, 2018**. All conditions for continued approval period remain in effect. Any modifications to the approved protocol must be submitted, reviewed and approved by the IRB before modifications are incorporated in the study.

IRB Secretary
 A 285 ASB
 Brigham Young University
 (801)422-3606

From: Human Subjects Committee <irb@byu.edu>
Date: Thursday, October 5, 2017 at 11:06 AM
To: Pamela Hallam <pam_hallam@byu.edu>
Subject: X17319 PI: Pamela Hallam IRB Determination: APPROVAL

Memorandum

To: Professor Pamela Hallam
 Department: EDLF
 College: EDUC
 From: Sandee Aina, MPA, IRB Administrator
 Bob Ridge, PhD, IRB Chair
 Date: October 5, 2017
 IRB#: X17319

Title: "Propensity to Trust and Trust Development Among Higher Education Students and Faculty in New Zealand"

Brigham Young University's IRB has approved the research study referenced in the subject heading as expedited, categories 6-7.

The approval period is from October 5, 2017 to October 4, 2018. Please reference your assigned IRB identification number in any correspondence with the IRB.

Continued approval is conditional upon your compliance with the following requirements:

1. A copy of the informed consent statement is attached. No other consent statement should be used. Each research subject must be provided with a copy or a way to access the consent statement.

2. Any modifications to the approved protocol must be submitted, reviewed, and approved by the IRB before modifications are incorporated in the study.
3. All recruiting tools must be submitted and approved by the IRB prior to use.
4. In addition, serious adverse events must be reported to the IRB immediately, with a written report by the PI within 24 hours of the PI's becoming aware of the event. Serious adverse events are (1) death of a research participant; or (2) serious injury to a research participant.
5. All other non-serious unanticipated problems should be reported to the IRB within 2 weeks of the first awareness of the problem by the PI. Prompt reporting is important, as unanticipated problems often require some modification of study procedures, protocols, and/or informed consent processes. Such modifications require the review and approval of the IRB.
6. A few months before the expiration date, you will receive a continuing review form. There will be two reminders. Please complete the form in a timely manner to ensure that there is no lapse in the study approval.

IRB Secretary
A 285 ASB
Brigham Young University
(801)422-3606

APPENDIX D

Instruments

Faculty and Staff Questions

1. Briefly explain how and why you chose to become a teacher.
2. What impact do you believe you personally have on whether or not students learn in your class and what impact do you believe the school as a whole has on that learning?
 - a. What impact does the student's motivation and home/community environment have on a student's ability to learn?
3. What influence do teachers have in decision-making at this school?
4. How has your teaching team contributed to your confidence in your ability to teach – whether through observation or collaboration?
5. How does feedback (team, mentor, principal) impact your teaching and your beliefs as a teacher?
6. How do you manage the stress that comes from teaching?
7. What happens when students don't learn in your class or this school?
8. Provide a brief explanation of efficacy before asking. Teacher efficacy is when a teacher believes in their own ability to guide their students to success. Collective teacher efficacy is the collective belief of the faculty and staff of the school in their ability to positively affect students. (Not just beliefs, but action). Beliefs + Action + Evidence = Results
 - a. What sources have contributed most to your sense of efficacy? What sources have undermined your sense of efficacy?