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Principals Implementing Growth Mindset Norms: Insights on School Culture Reform

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Principals Implementing Growth Mindset Norms: Insights on School Culture Reform

A dissertation submitted in partial satisfaction of the requirements for the degree Doctor of Education

by

Ian Andrew Guidera

2014

ABSTRACT OF THE DISSERTATION

Principals Implementing Growth Mindset Norms:

Insights on School Culture Reform

by

Ian Andrew Guidera

Doctor of Education

University of California, Los Angeles, 2014

Professor Robert Cooper, Co-Chair

Professor Diane Durkin, Co-Chair

The gap between the achievement scores of Latino and Black students compared to the scores of White and Asian students has received considerable attention from educators, with little progress made toward closing the gap. This study used growth mindset research to address four destructive learning threats that may contribute to the achievement gap for students in high-minority, low-income schools: negative school culture norms, the Pygmalion effect, stereotype threat, and fixed mindsets. Since the publishing of growth mindset research, leaders and teachers have looked for guidance on harnessing its ability to close achievement gaps in schools. Interventions for removing these threats to learning show promise.

For this qualitative participatory action research study, I designed the growth and fixed mindset norms framework for implementation in school cultures. The framework was created to give school leaders a tool for building school culture norms that counteract the learning threats.

Seven school leaders participated in three reflection, learning, and planning sessions, which gave them the tools to implement the norms. School leaders were given autonomy to choose the best path toward implementing the framework at their schools. Leaders conducted pre- and post-session observations of school cultures using the framework with the intention of measuring success levels for norm change.

I analyzed the leaders' implementation actions, which revealed drivers and barriers to implementation of the norms. One leader achieved high norm change, while three leaders achieved moderate norm change. Their actions illuminated a set of strategies for implementation. The successful leaders provided professional development and coaching on the norms. However, the most successful leaders provided teachers with targeted coaching on the norms and offered intervention coaching for struggling teachers. The four unsuccessful leaders did not provide their teachers with these same competency-building activities. Instead, they claimed they were stalled in their desire to implement the norms by shared-decision making models. As a result, their schools showed no norm change or their school cultures became more fixed over time. The findings in this study show that norm change is possible with intentional and coordinated action. Based on the experience of the participating leaders, I provide recommendations for leaders seeking to build schoolwide cultures with growth mindset norms.

The dissertation of Ian Andrew Guidera is approved.

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James Stigler

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Wellford Wilms

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Robert Cooper, Committee Co-chair

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Diane Durkin, Committee Co-chair

University of California, Los Angeles

2014

Dedication Page

To my wife,

Ayana Cadres Guidera:

You are the embodiment of the growth mindset norm-building parent and educator.

To my parents,

Lauri Murphy and John Guidera:

Without your growth oriented-nurture, my paradigm would not exist—nor my opportunities.

To my children,

Halima and Ciaran Guidera:

Thank you for letting us experiment on you with the home norms—even though you had no choice in the matter.

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VITA

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Chapter 1: Introduction

This study focused on school principals who worked to build culture norms in their high-minority, low-income schools. These principals utilized the growth and fixed mindset norm framework developed for this study. The framework condenses the growth and fixed mindset research on intelligence beliefs into descriptions of what growth and fixed mindsets would look like across a school culture (Aronson, Fried, & Good, 2002; Blackwell, Trzesniewski, & Dweck, 2007; Dweck, 2007; Dweck, 2005; Mueller & Dweck, 1998). The efforts of these seven principals to install growth mindset norms at their schools illuminated key implementation insights.

Evidence has shown that building growth mindsets and positive school culture norms counteracts four major threats to learning and performance. These four threats are (a) stereotype threats, (b) negative *Pygmalion effects* (teachers who place low expectations on students cultivate low performance; Rosenthal & Jacobson, 1992), (c) negative school culture norms, and (d) fixed mindsets. Principals need to remove such threats from the school environment as they attempt to reform student underperformance. This study showed that leaders can change their schools' norms with intentional action. The findings also revealed the challenges to schoolwide norm change. Leaders searching for concrete ways to apply growth mindset research at their schools can use the experience of the leaders in this study as an implementation guide.

The Problem

Kindergarten through twelfth grade (K-12) school leaders who intentionally seek to build positive school cultures can powerfully affect student learning. The principals in this study worked at low-income, high-minority schools and experienced first-hand the task of building positive schoolwide norms that counteract threats to learning and performance. The principals

collaboratively synthesized existing interventions and created strategies of their own to confront threats, with varied impacts on their school cultures. The experiences of these principals may provide other leaders with a set of best practices for implementation, as well as insight into the anticipated barriers on their journeys. This study extends existing research on stereotype threats, the Pygmalion effect, school culture norms, and mindsets people hold about intelligence.

Low-income and minority students in the public school environment face numerous barriers as they climb the educational ladder toward a college degree. The National Assessment of Education Progress (NAEP) began measuring student achievement in 1978. For the duration of its use, the data have revealed that little progress has been made toward closing the achievement gap in math and reading between White students compared to Black and Latino students, despite significant innovations in research and practice for both leaders and teachers (Rowan, Hall, & Haycock, 2010). The gap starts when students begin their academic careers and widens as students matriculate toward high school and college. The success of Asian students has created a new, deeper gap for Black and Latino students to confront, as Asian students now outperform White students in all subjects (Rowan et al., 2010).

California has nearly the lowest levels of Black and Latino achievement in the country when compared to other states (Vanneman, Hamilton, Anderson, & Rahman, 2009). Although the Latino/White gap has marginally improved over the past 10 years on the Standardized Testing and Reporting (STAR) administered between the second and twelfth grades, the overall Black/White gap remains essentially unchanged (O'Connell, 2010). The gap is significantly pronounced in California high school graduation rates, considering that only 57.4% of Black students graduate from high school, a full third lower than the graduation rate of Asian students and 23 percentage points lower than the graduation rate of White students (Stillwell, 2010).

An analysis of state and district averages shows that the scores of many high-minority schools are hidden at the extremes of the range. In 2010, in the Los Angeles Unified School District (LAUSD)—the second largest school district in the country—23 high schools, 18 middle schools, and 5 elementary schools reported that fewer than 20% of their Black and Latino students were designated as proficient in math. LAUSD (2010) also had eight high schools, 10 middle schools, and five elementary schools with fewer than 20% of students scoring proficient in English. Over 90% of the students at each of these schools were Black and Latino (LAUSD, 2010). At the bottom of this underperforming group were even more extreme cases. For example, at one large high school with roughly 1,500 students, only 0.7% of its students scored proficient or higher in math (LAUSD, 2010). Six other high schools performed similarly, with fewer than 3% scoring at least proficient (CDE, 2010). Education policy and research have focused on these inequities since the desegregation of schools in the 1960s; yet as the NAEP and STAR data illustrate, little has improved.

Threats to Learning

Hegemonic beliefs promoting inequity in schools are embedded in the K-12 experience and often go unchallenged. For example, negative beliefs about minority achievement potential and low expectations have permeated schools for some time. In the last century, minorities and women faced numerous obstacles to their academic and employment progress due to negative beliefs about their potential. Many would likely say the effects of negative beliefs about minority achievement potential continue to ripple in our schools today. Regardless of race and gender, school leaders continue to grapple with misconceptions about the true nature of intelligence, aptitude, talent, and innate neurological potential. Alfred Binet (1909/1973) attempted to make clear to his readers when he developed the first and most widely used IQ

measurement tool for predicting school achievement that the tool merely captured a person's functioning at the time of administration. He believed a person might move along the measure's scale throughout his or her lifetime due to experience.

> A few modern philosophers… assert that an individual's intelligence is a fixed quantity which cannot be increased. We must protest and react against this brutal pessimism.… With practice, training, and above all method, we manage to increase our attention, our memory, our judgment, and literally to become more intelligent than we were before. (Binet, 1909/1973, pp. 105-106)

This idea has not been well communicated to students or teachers.

Threats to learning and performance are present in the school environment for all learners. Low-income minority students must often learn amid long standing pejorative beliefs about their abilities based on their race, class, and gender. Stereotype threats (ST) cause students to divide their attention between performing a task and thinking about how they are going to be judged (Steele, 1997). Recent research has shown that these threats can also block students' abilities to learn and not just perform, such as when perceptual learning is involved (Rydell, Shiffrin, Boucher, Van Loo, & Rydell, 2010). Students may also experience a potential threat to their learning by having a teacher who has preconceived notions about the students' ability to learn, known as the *Pygmalion effect* (Rosenthal & Jacobson, 1992). In this condition, a teacher will often treat a child differently based on a belief about that child's aptitude, thereby unconsciously guiding the amount achieved during a school year. Students must also navigate the behavioral blueprints of schools in the presence of negative school culture norms that can affect the student learning experience (Deal & Peterson, 1994). The final threat to learning and performing examined here is how children perceive their own abilities.

Critical research has emerged on self-theories, dichotomizing beliefs along a spectrum. At one end of the spectrum is the belief that intelligence is fixed at birth, based on genetics

(entity theory); at the other end is the idea that intelligence is malleable through hard work and effort (incremental theory; Levy, Stroessner, & Dweck, 1998). Whether self-theories are measured in adults or children, 40% of those measured tend to possess the entity theory, 40% possess the incremental theory, and 20% are somewhere in between (Elliot, Dweck, & Covington, 2005). Awareness of these theories about one's self has been traced to children as young as three years old, based on research exploring the teacher and parent response to a child who was challenged or who failed during an activity (Hebert & Dweck, 1985).

When framed as mindsets, students have two choices. They can have a fixed mindset about intelligence, relying on the belief that humans are born with a certain limited academic potential. Alternatively, students can have a growth mindset, believing they can continually improve their abilities by working hard to employ effective strategies (Blackwell et al., 2007). Students who believe they can expand their potential through effort—that is, that they are not bound by innate capacities—tend to be more motivated and able to overcome longstanding racial and gender achievement differences (Aronson et al., 2002; Steele & Aronson, 1995).

Successful interventions to mitigate the impacts of these threats to learning and performance have been designed and tested with small groups. Each intervention dealt with removing fixed mindsets (Blackwell et al., 2007), removing stereotype threats (Aronson et al., 2002; Good, Aronson, & Inzlicht, 2003), confronting teacher-preconceptions about student intelligence (Rosenthal & Jacobson, 1992), and eradicating negative school norms (Deal & Peterson, 1994). To date, the research chronicling these interventions has involved single groups of students, rather than schoolwide or multiple sites with principals collaborating to bring about school culture change. While we know that principals of schools have particular influence on the directions of their schools (Deal & Peterson, 1990), we do not know the experience school

leaders have had in building growth mindsets into the norms embedded in their school cultures. Understanding these principals' experiences will provide the basis for the development of a guide on best practices for building growth mindset norms and will serve as a new leadership tool in helping leaders reform underperforming high-minority, low-income schools.

The Project

This qualitative action research is a response to the need for principals in high minority, low-income areas to build academically motivated schools free from threats to performance and learning. A cohort of seven LAUSD principals serving predominantly Black and Latino students from low-income families participated in three sessions of reflecting, learning, and planning on the four learning threats, mindset research, and the use of existing research-based interventions. In addition, during each session, principals shared strategies employed at their schools and reflected on their experience implementing the strategies. They embarked on the study with the goal of fully implementing the growth mindset portion of the growth and fixed mindset norms framework across their schools. Before the reflection, learning, and planning sessions, each principal collected data through a schoolwide observation with me, the researcher, on which norms their schools were exhibiting on the framework. These data elicited each principal's goals for his or her work in the study period. From the experience of the cohort, I have developed a guide for future leaders working to address their own school cultures. In the guide, I included strategies and drivers for implementing the framework, as well as signposts of barriers leaders need to be aware of in their own school reform efforts.

Research Questions

This study addressed the following research questions:

1. What actions did principals take to build schoolwide norms of growth mindsets at their high minority, low-income schools, according to principals and teachers?
2. According to principals and teachers, what were the most effective actions (drivers) when building schoolwide norms of growth mindsets?
3. According to principals and teachers, what are the least effective actions (barriers) when building schoolwide norms of growth mindsets?

Methods

In this study, I used qualitative action research methods to deeply understand the experience of seven school leaders. Although surveys and achievement data could have informed some dimensions in this study, they would not have captured the nuances of the unique drivers and barriers each leader faced. Building growth mindset norms requires astute observations of behaviors permeating school cultures. Pre- and post-site visits, document review, and focus groups were the optimal tools for achieving deep understanding of the creation of new norms and perceived value of actions taken. This study's sample and site comprised seven principals in Los Angeles Unified School District schools. Four sites were performing academically below state standards, and three were performing above. Each student body was predominantly high-minority and low-income.

Public Engagement and Dissemination

It is my intention for this research to provide a powerful learning tool for education leaders serving high-minority, low-income populations. In addition to the hope of holding further trainings at the schools studied and for spreading the learning within Los Angeles Unified

School District more broadly, I will work to engage a statewide and national audience. I will present the findings at national, state, and local conferences for principals and education leaders. Further, in this time of efficient and inexpensive professional development webinars, I will seek out technological methods to disseminate the findings to a wide audience of leaders on the Internet.

It is also my intention that this paper be condensed and summarized for peer-reviewed publications consumed by principals and school leaders nationally. Additionally, this work is a starting point for a comprehensive guidebook I plan to author for principals and other education leaders who wish to access research-based strategies for reforming their school cultures.

Beyond these methods, as a former teacher and principal, currently working as a school reformer, I intend to incorporate the findings in my every day work while seeking to continually increase the amount of equity that low-income, high-minority public schools provide students. Further research on building positive school cultures of growth mindsets will likely be a professional goal.

Chapter 2: Literature Review

The academic achievement gap experienced by Black and Latino students when compared to White and Asian students widens as students matriculate (O'Connell, 2010; Rowan et al., 2010; Vanneman et al., 2009). This gap occurs throughout the education pipeline, from Kindergarten to college graduation. When reforming an organization, including a school, Bolman and Deal (2003) recommended being mindful of four frames: structural, human resource, political, and symbolic. This study supported principals in reforming a frame often unaddressed by policy and programmatic innovations instituted at low performing schools—the symbolic or culture frame.

Students are confronted with numerous roadblocks to learning and performing at their best in the school environment. In this study, these roadblocks are referred to as threats to learning and performance. The actions of principals and other school leaders have included addressing four pervasive school environment threats faced by all students: (a) stereotype threats (ST), (b) teachers' preconceptions about student intellectual capacity, also called the Pygmalion effect, (c) negative school culture norms, and (d) fixed mindsets about intelligence. Successful interventions have been designed and tested on diverse groups of students to remove the impacts of these threats to performance and learning. This study has empowered principals to utilize these interventions and create their own strategies for implementing the growth and fixed mindset framework and provided future leaders with a guide for doing this work at their own schools.

In this chapter, I review the literature on the current conditions for Black and Latino students. This review includes descriptions of the student body populations in this study, as well as the impacts of stereotype threats, the Pygmalion effect, the school culture norms underlying

the daily business of schools, and fixed mindsets. The recent research on mindset theories is synthesized and used to build a framework for defining essential characteristics of growth mindset norms (GMN), conceived of as school culture norms (Deal & Peterson, 1999). Also found in this chapter is a review of the successful interventions applied thus far by researchers to counteract the negative effects of stereotype threats and fixed mindsets. These interventions included counteracting negative school culture norms and confronting teachers who have been influenced by the Pygmalion effect. The arguments in favor of these interventions are made clear. I synthesized best practices to include in school leaders' action research design the reflection, learning, and planning sessions developed by the cohort of principals, which will help other principals in turn develop their own staffs toward building growth mindset norms into their schools. Additionally, a review of the literature on the drivers for implementing research-based practices (Blase, Dyke, & Fixsen, 2012) is detailed as the frame for viewing the successes and challenges of the leaders embedding the framework at their sites.

This literature review represents a call to arms for principals of high-minority, low-income schools, challenging them to develop growth mindset cultures with their leadership teams, teachers, students, and parents by implementing intentional positive school culture norms. The action research detailed in this paper added to the literature by addressing education leaders' desire to find opportunities for mindset research at their schools. With the study, I asserted that the work of improving student mindsets with the aim of improving academic achievement begins with motivating educators to change their behaviors through implementing growth mindset-oriented instructional norms. Additionally, this study illuminated the strategies, drivers, and barriers to implementing the norms.

Conditions for Students of Color

The existence of the Black/White achievement gap has long been apparent to educators and researchers. So too have racial and gender stereotypes about ability. Fully identifying all the potential causes of the achievement disparity has challenged researchers for some time. Black students, and specifically males, face not only an achievement gap, but also greater disadvantages and vulnerabilities in general, including under-employment, less health care coverage, higher prison rates, and lower life expectancy (Foundation, 2006; Fund, 2007; Littles, Bowers, & Gilmer, 2008). All these factors widely affect family units on issues of health, wealth, and life expectancy. Additionally, some forty years after the Civil Rights Movement, survey data confirm that Black Americans, at rates as high as two-thirds, report experiencing overt discrimination (Broman, Mavaddat, & Hsu, 2000). Preteenage children have reported racial mistreatment in schools and public places (Simons et al., 2002). Students who are aware of discrimination and its use against their racial group tend to perceive academic achievement as being less important and therefore are often less engaged in their school work (Taylor, Casten, Flickinger, Roberts, & Fulmore, 1994).

Recent data indicate the proportion of the population that may experience the discrimination described is growing. According to the Pew Hispanic Center, in 2010, nationally, 23% of U.S. school-aged students were Latino, a growth of 39% over the past decade. It is predicted that by 2025, 25% of all U.S. students will be Latino. Already in California, half of all school-aged children are Latino, and several other states are not far behind (Passel, Cohn, & Lopez, 2011). Reforming schools through action research such as this project provides another method for breaking the cycle of low achievement for our minority population.

Threats to Performance and Achievement: Teacher Beliefs about Students

In addition to the long-standing awareness of the achievement gap, we have also known for some time that teachers' preconceptions about a student's intelligence potential strongly affect achievement for all students. In the classic 1968 study published by Rosenthal and Jacobson, *Pygmalion in the Classroom,* the authors confirmed what many only suspected: that teacher beliefs about a student's intelligence level at the outset of a school year actually affect the IQ score of that child over time. The researchers found that individual teachers' preconceived beliefs about a student's aptitude, even when purposely distributed to that teacher incorrectly, influenced aptitude scores in just one year. They saw how if a teacher believed a student was particularly apt, according to an IQ test, the teacher seemingly unconsciously taught the student in a way that increased IQ by as much as 96 points. With first and second graders, the IQ scores of 79% of the students in the experimental group improved at least 10 IQ points, and the IQ of 21% increased as much as 30 points. These rates were double those seen in the students where teachers had been led incorrectly to believe the students were at most of average intelligence.

In this study, school leaders aimed to influence the adults in their schools to display the behavior that had been shown to increase student IQ levels, as reported by Rosenthal and Jacobson. Where the norms from the framework were well implemented, teachers approached their students as the unknowing participants in the Pygmalion effect research did, treating all children as if they could learn at gifted levels.

Threats to Performance and Achievement: The Effects of Stereotypes Threats

Among other factors, societal assumptions about the achievement potential of racial and gender groups also affect how students perform. Steele (1997) found that stereotype threats (ST)

associated with widely known negative impressions about a group's abilities have a negative effect on the performance of tasks related to the stereotype. His research has generalized these effects to groups despite the fact that the validity of the actual stereotypes in question have been disproven (Steele, 1997; Steele & Aronson, 1995). A student working on a task need not believe in a stereotype to be affected by the fear of proving the stereotype correct. Threats inducing anxiety have often been found to cause students—and even adults—to divide their attention between a performance-judging task, such as taking a test, and the threat of proving the stereotype correct. This division of attention detracts from students' ability to perform at their best.

Researchers have shown threats exist for women taking math tests (Spencer, Steele, & Quinn, 1999). Similar outcomes have been seen in testing the math ability of Latina women, who face a double minority status (Gonzales, Blanton, & Williams, 2002). Other studies involved testing the elderly on faulty memories (Hess, Auman, Colcombe, & Rahhal, 2003; Levy, 1996); examining low-income people being thought of as less intelligent (Croizet & Claire, 1998); studying White males experiencing the threat of being compared to Asian students in math (Aronson et al., 1999); testing Black athletes on "sport strategic intelligence" vs. their "natural athletic ability" (Stone, Lynch, Sjomeling, & Darley, 1999); and studying Black students' academic aptitude (Steele & Aronson, 1995).

Recently, Rydell et al. (2010), found that STs not only affected the performance of students on tasks on which they felt they were being judged, but also influenced learning. The researchers took two groups of women through a series of visual perceptual learning tasks. One group had been exposed to ST conditions; the other group had not been exposed to ST conditions. The researchers were able to determine that when learners perceived the threat of stereotypes,

their visual perceptual learning ability was severely reduced (2010). These threats were widespread and continue to challenge all educational leaders, not just those serving low income, high minority populations.

Although the existence of these threats has been confirmed in over 300 scientific journals (Aronson, 2002), researchers have not claimed that threats explain the entire existence of the Black–White achievement gap or any other gap. Indeed, critics of Steele's work have pointed out that these threats are not the sole cause of the achievement gap. Threats are one of many potential factors for under-performing; however, they do not fully explain why Black and Latino students are lagging in school. As Sackett et al. (2004) pointed out, Steele's seminal work controlled for factors like prior SAT performance when looking at the power of interventions to close achievement gaps. Sackett et al. acknowledged the existence of threats and their power, but cautioned against exaggerated interpretations. Worth noting in relation to this project, although building growth mindset-oriented cultures was planned for each school with the goal of improving learning conditions for students, without a coordinated set of other reforms and initiatives to address achievement needs holistically, erasing the achievement gap likely will not be completely successful. Additionally, this study did not address the degree to which the leaders were able to erase any gaps in achievement. However, as the seminal research shows, eradicating stereotype threats, the Pygmalion effect, negative norms, and fixed mindsets is likely to make reform initiatives more effective.

Threats to Performance and Achievement: Intelligence Mindsets

Alfred Binet, the father of the modern intelligence measure (IQ), noted one's intelligence can change (Binet, 1909/1973). Ironically, his tool has been used for over 100 years as a static assessment within the American schooling paradigm, further evidence of the hegemonic issues

students face regarding educator beliefs about students' potential and aptitude. People who believe their intelligence is a fixed trait at birth support the entity theory, or fixed mindset. Intelligence is referred to as an entity because proponents of this view conceive of intelligence as something that dwells within us, that we are unable to change (Blackwell et al., 2007; Dweck & Leggett, 1988). Therefore, an educator or student who possesses this mindset might believe there is no need to work to his or her perceived limits, since one cannot increase one's intelligence or talent. These educators and students tend to give up on challenges and often attribute failure to the task being too difficult for them to surmount. Students with this mindset are less motivated to learn and consequently achieve at levels that do not fully realize their potential.

The second intelligence framework centers on malleable intelligence, the view that intelligence is incremental in nature. This type of intelligence is the essence of a growth mindset. Adherents of this framework believe they can cultivate themselves through learning incrementally, provided there is enough guidance and hard work (Blackwell et al., 2007; Dweck & Leggett, 1988). With effort and strategy, those with a growth mindset know they can grow their intelligence and talent. These individuals often seek challenges and attribute their own successes and failures to how hard they worked and how well they employed the right strategy. As a result, people with a growth mindset tend to be more motivated and often learn more from being in a learning experience.

Growth Mindset Confirmation: Neurogenesis

Until the 1970s, the idea that (with the exception of mild growth at infancy), brain functioning is fixed was widely accepted in medical research. There are two relatively new and developing areas of brain research called neuroplasticity and neurogenesis, which show the brain

is physiologically malleable and can adapt through experience. Neurogenesis refers to the birth or development of new cells (Eriksson et al., 1998). Neuroplasticity indicates that our experiences of trauma, effort, and even non-effort can cause neural cells, which interconnect, to form new stronger connections or to weaken from losing connections (Ponti, Peretto, & Bonfanti, 2008). Despite the continued need for more research on both, ample evidence exists to invigorate social psychologists' study of learning and behavior, as well as to motivate this project.

A Link between Intelligence Theory and Stereotyping

Researchers have asked whether possessing an entity theory or fixed mindset causes subscribing to stereotypes. Levy et al. (1998) conducted five experiments to test this question, as well as whether teaching a growth mindset could reduce one's subscription to group stereotypes. Researchers found a person's implicit theory about intelligence predicted the degree to which he or she socially stereotyped. They assessed the extent to which associated stereotype traits were inborn or a result of nurture. People who held a fixed mindset made more stereotypical judgments of racial and occupational groups.

Additionally, researchers found that applying an intervention in which participants' theory of intelligence was manipulated through reading an article could reduce the degree to which the participant stereotyped. Not only is one's intelligence malleable, but so too is a person's belief system about intelligence. In order to improve the learning conditions of students through building growth mindsets at schools, educators must first understand the significance and influence of school culture on learning.

Cultural Ecology and School Culture

School cultures in general are powerful forces in minority achievement differences. Ogbu's (1978) popular cultural ecology theory holds that the culprit for achievement variances is Black students' "acting White" at school to avoid being stereotyped. Ogbu examined how ethnic groups residing in an ethnically pluralistic society tend to view their identities according to how the dominant group has historically incorporated these groups into the social system (Ogbu, 1978). Ogbu suggested the racism experienced by ethnic group members, which is still prevalent today (Broman, Mavaddat, & Hsu, 2000), can cause an involuntary group to develop a secondary system of cultural differences, known as *cultural inversion*. Ogbu (1978) argued that groups such as Black Americans are essentially living in a caste-like system and do not have *effort optimism*, a term for the belief that their hard work in school will actually be rewarded. The formation of caste-like conditions for Black and Latino minorities in our broader culture and in school cultures can be likened to inducing fixed mindsets on the question of whether improving abilities in school will ultimately have any value for one's future. As a result, members of minorities who experience caste-like conditions may ignore or reject the forms of learning that are offered in school. In studies published in 1986 and 2003, Ogbu theorized students' attitudes toward achievement were largely lacking a motivation to appear "White," or high achieving, as a cultural opposition to the dominant group. Steele (1997) and Dweck's (2007) work indicates that the purpose for this cultural inversion is likely the adopting of a fixed mindset as a coping tool to ease the threats present for students in any failures they may experience early on in trying to live up to education expectations.

In a study similar to Ogbu's, Tyson et al. (2005) found attitudes related to achievement for Black and White students were largely the same for the two groups; however, self-esteem

actually played a role in achievement and had a snowball effect when students did well. The researchers suggested that school structures, and not the inverted culture of a child reacting to the dominant culture, explained better why achievement tends to be racialized. Categorization in schools was more closely related to class, with lower socio-economic status (SES) students not wanting to appear to be "acting high and mighty," which also applied to lower SES White students. Although not labeled as such by the researchers, the majority of the Black students and lower SES White students who were studied as they experienced the rigors of high school course selection reported explanations similar to descriptions of a fixed mindset, or entity theory. The patterns Tyson et al. identified ultimately pointed toward a need for systemic institutional changes that affect school cultures in the context of motivating Black students and all adolescents to break out of perceived ability categorizations.

School Culture Norms

I constructed an innovative framework from previous research on school cultures and mindsets for use in this study. Instead of attempting to change individual student mindsets and leaving the problem of adult fixed mindsets and behaviors for later, I took the aim of reforming the school culture through building new normative instructional behaviors in the school cultures. Principals worked to bring mindset norms into their school cultures using previously tested interventions and new strategies for implementation.

The concept of school culture is not new, and selecting a common definition of school culture has been debated heavily in the past century. School culture will be defined in this project through the synthesized works of organizational culture and leadership expert Edgar Schein (2010) and organizational and school culture experts Peterson and Deal (2009). Schein defined organizational culture as

> a pattern of basic assumptions—invented, discovered, or developed by a group as it learns to cope with problems… that has worked well enough to be considered valid and, therefore, to be taught to new members as the correct way to perceive, think, and feel in relation to those problems. (1985, p. 9)

Applying Schein's (1985) work specifically to schools, Peterson and Deal (1999) stated, "School cultures are complex webs of traditions and rituals that have been built up over time as teachers, students, parents, and administrators work together and deal with crises and accomplishments" (p. 4). In this project, the work of each principal included manipulating his or her complex webs to unite school educators on the goal of adopting new growth-oriented patterns of instructional behaviors.

Peterson and Deal (1990) found through case studies of five principals in diverse situations that school leaders hold specific powers in building positive school cultures. The researchers characterize successful principals as those who instill positive school cultures by fulfilling five roles—symbol, potter, poet, actor, and healer. In their analysis of commonalities among their case studies, Peterson and Deal found each leader employed several tactics. These tactics included identifying what was important for their organizations; selecting teachers who fit with their cultural visions; managing conflict successfully; setting a consistent example; telling stories that illustrated their visions; and using ceremonies, traditions, rituals, and symbols to represent the values of their schools. Importantly for this project, Peterson and Deal made explicit the inadequacies of engaging in this work if leaders do not exhibit a voracious tenacity in striving to build and support a culture of excellence at their sites. In the face of challenges, leaders must remain resolute in seeking to reach their school goals.

In *Shaping School Culture: The Heart of Leadership,* Peterson and Deal (1999) reviewed literature supporting the power of school culture to positively affect many features of schools. They contended that strong, positive, and collaborative school cultures:

- Foster school effectiveness and productivity
- Improve collegial and collaborative activities that foster better communication and problem-solving activities
- Foster successful change and improvement efforts
- Build commitment and identification of staff, students, and administrators
- Amplify energy, motivation, and vitality of a school staff, students, and community
- Increase the focus of daily behavior and attention on what is important and valued (pp. 7-8)

These activities were intended to build schoolwide cultures that promoted growth mindsets in leaders, teachers, and students. The benefits and impacts of strong cultures, as compiled by Peterson and Deal, correspond well to the work that school leaders attempted at their sites in this study.

Each leader had unique tasks to execute, resulting in varied experiences with attempting to shift his or her school culture. A school's culture can be viewed through its mission, purpose, beliefs, assumptions, norms, and goals. Where the mission and purpose of a school guide the daily work, values are consciously stated expressions of what the organization stands for. Beliefs, too, are conscious and are indications of how one comprehends and copes with the world. Assumptions are preconscious beliefs embedded at a school site, equivalent to hegemonic beliefs because they are core understandings, mostly covert and rarely explicit. Goals are stated benchmarks school leaders intend to reach on their paths toward fulfilling their schools' missions and visions.

Norms are unstated or stated staff behavioral structures. Norms can either support or covertly challenge the reasons why school leaders claim it exists. In schools, norms can be both

positive and negative and develop both formally and informally, dictating how members act and interact. Leaders solidify norms through their own actions, inactions, messages, supports, and penalties (Deal & Peterson, 1999). In this project, I explicitly attempted to address beliefs and assumptions by employing mindset, Pygmalion effect, and stereotype threat interventions, as well as other principal-designed actions, to fully allow for the reaching of each school's mission. The degree of success each principal experienced in reforming the normative behaviors of adults in the schools varied from culture to culture, based on his or her implementation activities.

There are functional and dysfunctional norms in schools. Saphier and King (1985) and Deal and Peterson (1994) identified a list of norms that I used to frame this study and guide the work of the principals. A full list of both types of norms can be found in Appendix A. Many of the positive norms identified on the list apply to leaders who are interested in building growth mindset cultures, because each norm provides, whether present already or not, a particular lens to consider during the planning phase at each site. Some of the most applicable norms for this study included treating people with respect; seeing everyone as a potential source of valuable insights and expertise; trying to initiate changes to improve performance; encouraging others to suggest new ideas; being helpful and supportive of others; sharing information to make the organization better; and serving the needs of students rather than serving personal needs only.

Additionally, negative norms, present or not, can serve as potential barriers for each leader outside of the potential systemic issues leaders may encounter. Important negative culture norms considered in this study included allowing disagreements between staff and principal; denigrating the school; hating their work; hiding new ideas and information from others; laughing at or criticizing those who were innovative; ignoring problematic areas of curriculum, instruction, and learning; and rationalizing why they could not improve (Deal, 1994). I used the

norms found by Deal and Peterson (1994) to inform the construction of a new tool for leaders, which I called the *growth and fixed mindset norms framework*. Leaders have been excited to use growth mindset research at their schools, but thus far have been limited to changing mindsets with individual deployment models. The framework I have designed empowers leaders to look intensely at the instructional norms in their cultures and to work at changing the cultures to a growth orientation.

Growth Mindset Framework: Norms for School Culture

To concretize the construction of growth mindset into the cultures of schools required a framework to define school norms in a growth mindset school culture (Table 1). Since schools may also possess unintended norms that support fixed mindsets, the framework delineates these unintended norms as well. From the research available on mindsets (Aronson et al., 2002; Blackwell et al., 2007; Dweck & Leggett, 1988; Hebert & Dweck, 1985; Kamins & Dweck, 1999; Mueller & Dweck, 1998), I have identified features of the two mindsets and formatted them like Deal and Peterson's (1994) positive and negative school culture norms.

Table 1

Growth and Fixed Mindset Norms Framework

	Growth Mindset Norms*	**Fixed Mindset Norms***
1	Teachers provide academic challenges for all. Students taught to embrace/seek challenges and persist in the face of setbacks.	Teachers do not provide academic challenges for all. Students permitted to avoid challenges and give up easily.
2	Teachers and students state, "Oh! I like a challenge!" or something similar.	Teachers and/or students state, "This is too hard. I give up," or something similar and is unaddressed.
3	Teachers and students see/communicate that effort and practice are the path to mastery. Teachers and students acknowledges getting smart/intelligent from effort.	Teachers and students see/communicate that effort is fruitless due to ability and talent being innate. Teachers and students state, "I'm just not a math person," or something similar.

4	Teachers give incremental clues and cues when students are not there yet and during questioning. Students in cooperative settings help, but don't tell/do for others. Teachers never do something for a child that the child can do for themselves in a learning situation.	Teachers dispense information to students. Teachers give answers when students do not have them. Students in cooperative settings tell answers, allow copying, or do the work for others. Teachers bail out students who struggle by telling and doing the potential learning situation for the student.
5	Teacher models and teaches persistence. Teachers use wait time and encourage all to be patient during thinking opportunities. Students persist in thinking exercises until complete. Students are allowed to have ample think and do time during activities. Students seek help only after giving true effort.	Teacher models giving up. No or not enough thinking and/or doing time given. Teachers go with first student to come up with an answer or allows calling out (not unison calls). Students give up during thinking exercises. Students ask for help without true effort applied repeatedly to an activity.
6	Teachers and students praise and give feedback on effort and strategy. Teachers give incremental and specific feedback during lessons and on student products. Teachers and students communicate that they learn from criticism/feedback and are accepting of it.	Teachers and students praise and give feedback on intelligence/smartness, correctness and/or behavioral compliance. Teachers give right and wrong feedback mostly. Teachers and students ignore/avoid giving and receiving useful criticism and feedback.
7	Teachers models being wrong as being a big learning opportunity. Students are taught to embrace mistakes and the learning that comes from them. Students are made to feel comfortable being wrong in public.	Teachers shows a dislike for mistakes. Teachers promote a feeling of wrong being bad and/or to avoid being wrong in public. Students communicate that being wrong is bad (ridicule). Teachers and students hide being wrong (helpless techniques).
8	Teachers and students show when others succeed they find learning and inspiration in their success.	Teachers and students show when others succeed they are threatened by their success.
9	Teachers and students see/communicate that assignments and assessments are about learning and personal growth.	Teachers and students see/communicate that assignments and assessments are about comparison/ranking and grades.
10	Teachers provide performance tasks and constructed response type activities.	Teachers give activities and measures designed to compare, rank, and grade students.
11	Teachers and students recognize and/or celebrate personal growth. The school has systems to celebrate personal growth at least as much as celebrations of top achievers.	Teachers and students recognize and celebrate top achievers/achievement only. The school primarily has systems to reward top achievers.

*All norms are communicated via messages written on assignments, texts, novels, videos, posters, walls, bulletin boards, announcements, flyers, newsletters, websites, phone calls, staff development materials, etc.

To enhance their ability to unite their campuses around growth mindset norms, principals were allowed to flexibly select and use various research-based interventions during their collaboration sessions to confront the threats to learning, with the goal of producing the growth-oriented norms listed in Table 1. Stating the interventions as norms in a framework gave the principals, leaders, and teachers a tool for intentionally improving their school culture, as well as for assessing progress.

Interventions to Stereotype Threat

Principals in this study learned about proven interventions available for them to use to build growth mindset norms at their schools. Research has produced many successful interventions designed to build a growth mindset. These interventions have utilized malleable intelligence theory to promote student knowledge about their abilities to grow intelligence. These interventions have also been shown to improve achievement, school engagement, and enjoyment of schooling. Aronson et al. (2002) used a film and discussions to teach Black and White college students about viewing their intelligence as growth-oriented. Later the college students tutored school-aged children on the messages they had learned. A comparison group was not taught about the new connections they could form in their brain while learning, but instead were taught about multiple intelligences theory (Gardner, 1993). At the end of the semester, grades were higher for the college students who had been taught they could incrementally grow their intelligence. When the Black college students in the two groups were compared, the improvement in grades and perceived value of education was the highest for the intervention group, despite neither group reporting any differences in any perceived stereotype threats. The Black students' exposure to a new mindset about their achievement potential, as well as their experiences teaching the concept to the children, had provided them with the

motivation necessary to cope with stereotype threats and mitigate the negative impact on performance often seen for many.

Similar successful interventions were administered to junior high children by Good et al. (2003) in a field experiment, where children were taught about the growth orientation of their intellectual abilities during a computer class led by college mentors. Students constructed websites spreading the messages they had learned. Further, they corresponded with their mentors throughout the year, further reinforcing the building of strong self-theories about growing their intelligence. The females and minorities in the control group had worked on a similarly positive messaging project related to being drug-free and ended the year with significantly lower standardized test performances. The female students in the intervention group closed the math achievement gap with males and minorities, and low-income students significantly improved their standardized reading test scores. These results support the conclusion that students in the intervention group overcame stereotype threat anxieties and improved performance.

A similar result came from a study by Johns et al. (2005), in which women were taught about countering stereotype threats and then asked to perform in several problem-solving situations. A control group of men and women who were given the same math problems were told they were taking a math achievement test instead. In the comparison between the two groups, the women who received the teacher intervention performed as well as the men. In contrast, the women in the control group, who took what they believed was a test of their math abilities, scored lower on average compared to the men. These findings indicate, similarly to the other interventions cited, how teaching a person to counter stereotype threats through new beliefs about themselves can help eliminate achievement differentials.

The election of President Barack Obama has brought new insights to the power of seeing highly successful, visible, and inspirational in-group role models. New research has shown that these visible in-groups can also help to counter the effects of stereotype threats. Just after the election of President Obama, Marx et al. (2009) conducted a study where randomly sampled Black and White students were given verbal tests in four groups at four predetermined times. Stereotype threats were activated in the test environment by telling the participants they were taking an aptitude test and that the test was an accurate test of their intellectual strengths and weaknesses. They were asked their race during testing. Additionally, to determine if they were concerned with confirming a negative stereotype about their group's intellectual ability, the students were asked to respond to three statements similar to "I worry that if I perform poorly on this test, others will attribute my poor performance to race" (p. 954). The four tests were administered in a sequence. The first test was given before Obama's speech to the Democratic National Convention to get a baseline. The second was given to those who did not watch the national convention, as well as to those who watched Obama's speech. The third was administered after Obama's highly inspirational speech, during the campaign period. Finally, the last test was administered after Obama's successful election.

After controlling for prior academic achievement, results confirmed that having Obama as a public in-group model significantly reduced the achievement effects of stereotype threats for Black students, resulting in researchers naming this phenomenon *The Obama Effect*. Black students who saw Senator Obama's highly inspirational speech at the convention perceived the speech had significantly narrowed the gap between Black and White students, whereas the scores of those students who did not watch the speech actually showed a more stratified gap. The smallest gap between the Black and White participants was seen directly following the election

win, reduced to an almost nonexistent difference. This knowledge provided the team of principals with valuable additional insight on a strategy for building their schoolwide cultures by referencing inspirational in-group role models who have overcome common stereotypes.

Each intervention studied has shown how, in a relatively short time, building a student's belief in the power of effort to trump a fixed mindset not only can close racial gaps in achievement but also gender-based gaps. The tight link between believing in one's own malleability and overcoming threats has been proven. Stereotype threat interventions in schools are powerful tools for increasing the performance of minorities, females, and low-income students. In addition to stereotype threat interventions, the Pygmalion effect study was instructive for leaders designing their strategies for implementation of the framework.

Interventions to the Pygmalion Effect

Rosenthal and Jacobson (1992) structured their groundbreaking Pygmalion effect research as a mindset intervention. Teachers were told at the outset of the school year that certain students in their classes had been rated particularly gifted on an inventory all students had taken the previous year. In the experimental group, students were falsely labeled as being apt, when the measure had in fact found they were of average intelligence or lower. Additionally, students who were gifted on the measure were described to their teacher as having average intelligence.

At the end of the year, the structure of the study included an intervention for improving achievement in students by building a belief in teachers that students who were not showing giftedness on an intelligence measure could learn at gifted levels. The falsely identified students in the experimental group had significantly improved their IQ in one school year due to their teachers' false information. Conversely, the learning of those not identified as gifted to their

teachers was threatened. These students were in the same classrooms as those identified as gifted but were not taught in a way that yielded the same IQ growth. The teachers, seemingly unconsciously, had taught the falsely identified as gifted students in a way that increased the children's IQs by as much as 96 points. With first and second graders, the IQ scores of 79% of the students in the experimental group improved at least 10 points, and the IQ of 21% increased as much as 30 points (Rosenthal & Jacobson, 1992). Consequently, teachers shifted their own mindsets to a growth orientation and adopted the perspective that their students had growth-oriented intelligence. Thus, in an environment that expects and promotes growth mindset norms, the positive Pygmalion effects seen by Rosenthal and Jacobson can become the norm.

Interventions to Fixed Mindsets

Fixed mindsets can change. Not only does changing mindsets to a growth orientation improve achievement, but it removes the impact of stereotype threats as well. Latino and Black seventh graders were taught about their ability to grow intelligence in a relatively short intervention of eight sessions described as scientific workshops. Blackwell et al. (2007) were able to see improved performance in math over the math performance of students who were taught only about study skills and the dangers of labels. They also documented teachers' identifications (teachers did not know which students were in which groups) of the most motivated children in their classes during the study period. Predictably, the most motivated students were from the group that learned about growth orientation of their intelligence.

The full collection of research-based interventions made available to principals during their collaborations sessions can be found in Appendix B. In order to ensure principals optimally learned in their reflection, learning, and planning sessions, and to ensure that principals used best

practices for implementing the framework at their schools, it was essential to infuse adult learning theory.

Andragogy: Building Optimal Conditions for Principal Learning and Collaboration

Incorporating adult learning theory in the action research design was essential for the effectiveness of this study's actions, as well as for the effectiveness of the principals acting at their sites. I engaged each principal in a series of three sessions structured to ensure they optimally learned, had well planned actions at their schools, and were reflective practitioners throughout the study.

The father of adult learning sciences was Malcolm Knowles (2011), author of *The Adult Learner*. Knowles compared the practices of andragogy and pedagogy. In pedagogy (the practice of leading children to learn), the teacher takes full responsibility for all the actions related to student learning, and the learner is often submissive and more directed by the teachers. In contrast, andragogy (the practice of leading adults to learn) requires understanding six assumptions/principles, which differentiate pedagogy from andragogy:

1. *The need to know*. Adults need to know why they need to learn something before undertaking to learn it.
2. *The learners' self-concept*. Adults have a self-concept of being responsible for their own decisions, for their own lives.
3. *The role of the learners' experiences*. Adults come into an educational activity with both a greater volume and a different quality of experience from that of youths.
4. *Readiness to learn*: Adults become ready to learn those things they need to know and be able to do in order to cope effectively with their real-life situations.

5. *Orientation to learning*. In contrast to children and youths' subject-centered orientation to learning, adults are life-centered in their orientation to learning.
6. *Motivation*: Adults are responsive to some external motivators (better jobs, promotions, higher salaries, and the like), but their most potent motivators are internal pressure (the desire for increased job satisfaction, self-esteem, quality of life, and the like). (pp. 63-67)

This model guided the construction of learning conditions and formed the basis for the collaborative setting that principals in this study used to implement the framework in their schools.

> Knowles' (1984b) work also informed this study through the idea that the andragogical model is a system of elements that can be adopted or adapted in whole or in part. It is not an ideology that must be applied totally and without modification. In fact, an essential feature of andragogy is flexibility. (p. 418)

Based on this information, the construction of the learning session framework for this study needed to be clearly defined, incorporating situations that accounted for the six assumptions, but also had to remain flexible in design to allow for the needs of each individual and group.

Taking into account andragogical learning theory, this study utilized a flexible, three-component learning model created to promote the principals' task of building growth mindset norms at their schools. All principals were fully informed about the purpose of the study during the solicitation period. They were told about likely challenges and likely benefits of this study to ensure they were fully invested in the work (addressing andragogy assumptions 1 through 6). Each session included ample time for reflecting on their schools and on their own actions (addressing andragogy assumptions 2 through 6). The second component of each collaboration session involved learning about the threats to student learning, fixed and growth mindsets, and research-based interventions to build growth mindsets (addressing andragogy assumptions 1, 4, 5,

and 6). The final component to each session included planning for action in a way that permitted flexibility without prescription, for principals to make their own decisions on next steps. This allowed them to consider their own reflections and learning and facilitated sharing of actions and reflections from the cohort (addressing andragogy assumptions 1 through 6).

The quality of facilitation skills in the reflection, learning, and planning sessions was important to principal learning and effectiveness. By using facilitation research, this study not only ensured a stronger level of principal learning and action, but also provided leaders with enhanced long-term skillsets to improve leadership at their schools. They were encouraged to adopt andragogical principles in their own facilitations at their schools as well.

In a study of 371 novice adult trainers and 20 expert trainers, Swanson and Falkman (1997) employed the KJ Method (Scupin, 1997) to yield a matrix of 12 common training delivery problems and three to four solutions for each. One approach to organizing data that are elusive, confusing, and disorganized is to use the KJ method designed by Japanese ethnologist Kawakita Jiro, whose analysis involved grouping data according to mutual affinity in diagrams. Following this approach, the delivery issues uncovered by Swanson and Falkman (1997) were grouped into three themes that I account for in my study: (a) those that pertain to the facilitator, (b) those that describe how the facilitator relates to the principals or teachers, and (c) those associated with the delivery techniques employed by the facilitator. The full list of problems and solutions can be found in Appendix C. As a part of my facilitation planning, the problems with facilitation were confronted by being mindful of their potential, but more importantly by employing an andragogical repertoire that included the use of Swanson and Falkman's solutions as a guide for session design. Additionally, principals were briefly trained on the problems and solutions to guard against ineffective implementation of the framework at their sites. The

learning topics used in the reflection, learning, and planning sessions can be found in Appendix D.

Implementation Drivers

Data in this study involved understanding drivers and barriers for implementing the growth mindset norms framework. To accomplish the necessary coding and reporting required an appropriate tool. Research-based practices permeate the education landscape. Textbooks, pedagogy, and other rigorously tested school attribute designs abound. However, the National Implementation Research Network (NIRN) has found achieving actual benefits when scaling up a test design outside of the research environment can be problematic if specific elements, called *drivers*, are not in place (Blase, Van Dyke, Fixsen, & Bailey, 2012). Members of NIRN suggested 10 compensatory, integrated, and interactive drivers that clearly emerged when faithful and successful implementation occurred. According to the NIRN model, three domains organize the constructs of the drivers (see Figure 1). Thus, the data in this study were coded and organized using these three domains: organizational drivers, competency drivers, and leadership drivers.

Three elements comprise the organizational drivers: facilitative administration, decision support data system, and systems interventions. A facilitative administrative approach focuses on providing support for the initiative and removing any barriers. The decision support data system provides information to enhance decision-making. The systems interventions driver reflects a willingness among implementers to enact systems interventions when issues arise.

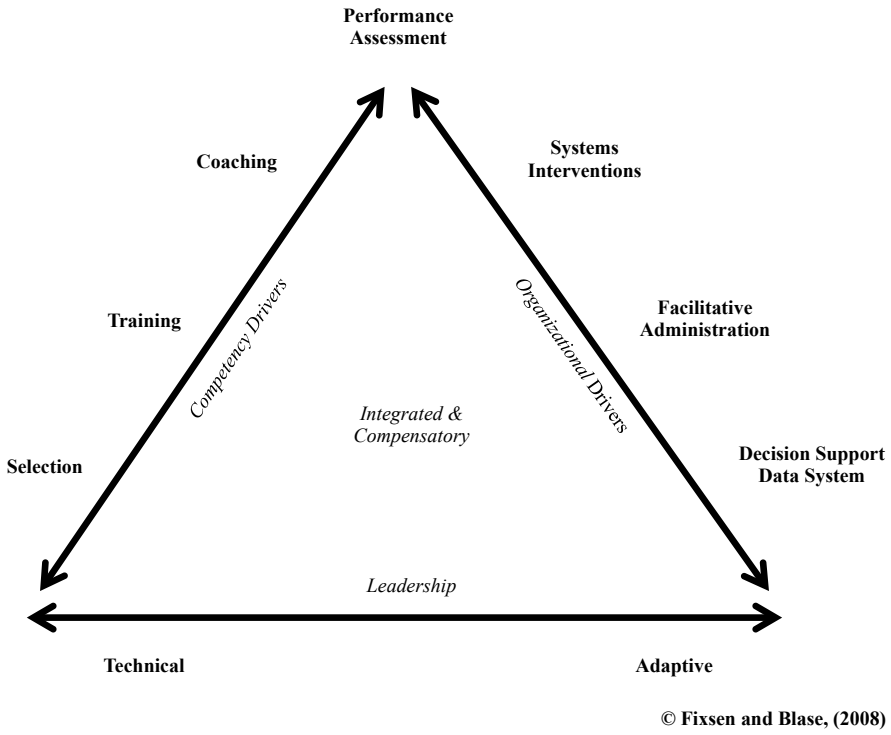


Figure 1. Implementation Drivers

From K.A. Blase, M. V. Dyke, and D. L. Fixsen, 2012, "Implementation science: Key concepts, themes, and evidence for practitioners in educational psychology," In B. Kelly & D. F. Perkins (Eds.), *Handbook of implementation science for psychology in education: How to promote evidence based practice*, pp. 13-34. London: Cambridge University Press. Used with permission.

The three competency drivers—selection, training, and coaching—involve the selection of competent and skilled people who can provide high quality training for staff (professional development) and who can support the training with coaching (see Figure 1). At the foundation of these two domains is the third driver category, leadership. Two leadership drivers support implementation: technical and adaptive. Technical leadership strategies are employed through a known set of required actions when issues arise in implementation. Adaptive strategies are

selected by the leader to creatively employ lesser-known paths to ensuring issues in the implementation are overcome.

At the intersection of the competency and organization domains is performance assessment (see Figure 1). Staff assessment measures are necessary to provide data on the quality and fidelity of the implemented program or practice. Thus, performance assessment is the source of the data used in the implementation of the growth mindset norms framework. The decision support data system is the mechanism by which leaders gain access to the data. The data system supports the abilities of the implementers to facilitate the implementation effectively and signals when problems may require system interventions.

During the coding of data for this study, the drivers were used to look for implementation practices that either fueled or hindered the outcomes achieved by leaders. Although NIRN does not explicitly state that the absence of a driver presents a barrier, the organization does support the idea that all the drivers must work in concert in an integrated and compensatory fashion. This means that, to achieve fidelity of implementation, all of the drivers must be present and working as a part of a system. Where one driver might be weak, other drivers in the system, if designed properly, can compensate and work to strengthen implementation fidelity. Therefore, in this study, the absence of or weakness in any one of the drivers will be viewed as a barrier to implementation.

Summary

School environments are intricate webs and require thoughtful actions from leaders to ensure schools offer optimal learning conditions for students. Principals hold the most power in developing cultures students deserve. Not only must students grapple with hegemonic beliefs about aptitude and potential, but they must also navigate school culture norms that affect

learning bidirectionally. Leaders in this project were empowered to learn about and use proven methodologies to remove learning barriers from the school environment by implementing school culture norms. Specifically, this project's purpose was to study a cohort of principals working to embed growth mindset cultures at their schools. The objectives the study addressed were to:

1. Document what actions principals took to bring about growth mindset norms in their school cultures
2. Document what leaders and teachers perceived to be most effective in driving their actions
3. Document what leaders and teachers perceived to be the barriers to this work

Using the andragogical best practices during the three reflection, learning, and planning sessions, leaders experienced multiple opportunities to reflect and share on their progress, to learn about the research that guided this study, and to plan their next actions for implementation. At the close of the study period, perceptions of principals and teachers on the efficacy of leadership actions were mapped to the implementation drivers in order to guide future leaders and lay the groundwork for further research.

Chapter 3: Methodology

The purpose of this study was to understand the implementation experiences of principals working to build schoolwide growth mindset norms in their school cultures. Possessing a growth mindset, rather than a fixed mindset, indicates a person believes his or her intelligence is malleable when effort and practice are applied. In contrast, a person who possesses a fixed mindset believes he or she is born with a static amount of potential, thereby demotivating the person to persevere through challenges. Students with growth mindsets have been seen confronting learning and performance threats such as stereotype threats and fixed mindsets. Teachers with growth mindsets can confront potential negative self-fulfilling prophecies like the Pygmalion effect. Intentionally instilling growth mindset norms in a school culture—as in the growth and fixed mindset norm framework built for this study, for example—will remove threats to student learning and performance by eradicating corresponding negative school culture norms. As discussed in previous chapters, this work is particularly relevant for low-income, high minority schools in need of academic outcome improvements.

Additional goals of the study were to understand the actions leaders considered drivers and barriers to implementation. Viewed through a participatory and advocacy lens (Creswell, 2009), this study represents a call to arms for principals. Critical theory (Fay, 1987) provided a foundation, empowering leaders, teachers, and students to transcend any hegemonic forces present in their school cultures. In this study, I sought to embolden principals to take action toward building school cultures that remove learning and performance threats for their students, who are largely minorities from low-income families. Advocacy research involves working alongside participants in bringing about social justice at their schools. This study was crafted to illuminate the views of students, teachers, and leaders, preserving the original intent of action

research as it was conceived by Kurt Lewin (1946). The outcome of each leader's participation and collaboration in the cohort was a set of best practices for future leaders who want to build positive school culture norms to confront threats to learning and performance. The best practices included guidance on implementation drivers and barriers.

This study addressed the following research questions:

1. What actions did principals take to build schoolwide norms of growth mindsets at their high minority, low-income schools, according to principals and teachers?
2. According to principals and teachers, what were the most effective actions (drivers) when building schoolwide norms of growth mindsets?
3. According to principals and teachers, what were the least effective actions (barriers) when building schoolwide norms of growth mindsets?

Research Design

A qualitative design was essential to document and analyze the actions and perceptions of principals while they worked to create growth mindset school culture norms, using the growth and fixed mindset norms framework designed specifically for this study (see Appendix E). At the start of the study period, all participating principals walked their campus with me to evaluate the current state of their schools on the framework. This process was repeated at the end of the study period to determine the quality of the leaders' implementation actions.

To bring about norm change, an action–reflection cycle (McNiff & Whitehead, 2006) was used during the study period. The cycle included three sessions during which leaders reflected on their actions at their schools, learned about threats to learning and interventions, and planned their implementations at their sites. All three components of our sessions constituted the action–reflection cycle: (a) observe (performed by the researcher), (b) reflect (performed by the

principals), (c) act at their sites (performed by the principals), (d) evaluate progress (performed by the principals), (e) modify actions at sites (performed by the principals), and (f) move in new directions (performed by the principals; McNiff & Whitehead, 2006). Each principal had a final interview in combination with a final observation of classrooms using the framework. Finally, focus groups with teachers and students were conducted to triangulate all principal perceptions and classroom observations.

Although surveying principals, teachers, students, and parents could have produced data representing the experiences of each principal, the nuances of each leader's perspective, actions, and results throughout the action research period would have been missed. One cannot quantify through existing data sets or surveys each principal's complete, unique lived experience. Thus, a more appropriate research design for collecting the needed data involved asking principals to share their personal use of culture building strategies. The principals shared their actions and interventions over three sessions and walked their halls and classrooms to confirm any shifts in norms they were able to bring about intentionally. Additionally, simply surveying teachers and students would have missed significant details about the leaders' experience and change process.

This study used existing quantitative data on the capacity of interventions to produce positive achievement improvements for students who are subject to stereotype threats, the Pygmalion effect, fixed mindsets, and positive school culture norms. Additionally, this study was not designed to measure the achievement impact from principals' actions, nor the quantitative impact of shifting students and teachers to growth mindsets from fixed mindsets. A wealth of research already affirms that having a growth mindset helps students overcome learning and performance barriers. Rather, the aim of the study was to inform leadership practices based on the process and experience of principals, so others may have guidance at their

schools. Based on this logic, conducting purely qualitative action research was warranted to fulfill the goals of this study.

The Project

Over a full day, principals walked their halls, campuses, and classrooms with me to apply the growth and fixed mindset norms framework as a school culture assessment tool. This process occurred twice at each site, once at the start of the study period for baseline data and once at the end. Principals received iPads, if they did not have one, to use as an online data collection tool. Each principal entered data into a Google form that populated a Google spreadsheet, which retained all of the data. Visits to classrooms ranged between 5 and 30 minutes in length. The goal was to visit over 40% of the classrooms on each campus. The baseline visits allowed leaders to reflect on the degree to which growth or fixed mindset norms already existed in their schools. Each principal received his or her baseline data when he or she began the first of the three reflection, learning, and planning sessions. The sessions occurred over an 8-week period, spaced out by three to four weeks.

In each session, principals publicly reflected on the state of the growth and fixed mindset norms at their sites and on the actions they had recorded in online journals maintained in a Google Docs location. Each session included learning about and exploring the existing research on the four threats to learning and performance, as well as on research-based interventions available to mitigate the threats (see Appendix E for the topics) and on other strategies schools could consider for implementation (see Appendix F). Each session concluded with the principals collaboratively planning their next actions at their sites so they could further embed the growth mindset norms. They noted these plans in their online journals using an action planning format (see Appendix G) called an ImpleMap adapted from implementation science detailed in Chapter

2 (Blase et al., 2012). The action plans were structured to ensure leaders adhered to the implementation drivers necessary for ensuring an innovation is implemented effectively.

Following the three sessions, the principals conducted final classroom walkthroughs of their school sites with me to take stock of what had shifted in their school cultures. Data were again input into the online data tool with their iPads. The resulting reports (see Appendix H) provided perspective on what had changed over the course of their sessions and armed them with data on the next level of progress needed in their cultures. The information collected allowed principals to consider moving beyond the study period and empowered them to map out ongoing plans to instill growth mindset norms at their schools.

The final walkthrough included an individual interview with each principal to reflect on his or her actions and on the drivers and barriers encountered over the preceding five months. Focus groups with five to 10 students, as well as with teachers, were conducted at each school to triangulate with principal perspectives. Additionally, a final member check was performed virtually with the leaders using Google Moderator to allow them to give final input on the findings of this study.

Site and Sample Description

The principals from each site voluntarily joined this study because of their interest in building growth mindset norms and reducing any fixed mindset norms in their school cultures. Each of the seven school sites were in Local District (LD) 3 or 5 within the Los Angeles Unified School District (LAUSD), which has been renamed since this study was conducted. The two LDs span South Los Angeles and East Los Angeles, where the majority of the district's underperforming, low-income, high-minority schools are located. The grade spans in the study included one middle-school campus (grades 5 and 6) and six high schools (grades 9-12).

All seven sites served student populations in which 99% were of minority descent (see Tables 2 and 3 for details on school site data). At these schools, 60% to 90% of the students qualified for the Federal Free or Reduced Lunch (FRL) program.

Table 2

School Demographics Subgroups and Academic Performance Index

School (Grades)	School	% EL	% SPED	% FRL	API[a]	API Pre[b]	Details on Status Based on PI and AYP
A (5-6)	A	30	12	89	825	-	PI1[e]
B (7-12)	B	0	7	84	842	-	Made AYP[d]
C (9-11)	C	35	8	90	-	565 or 545	Opened 2011
D (9-12)	D	0	17	71	593	-	PI5[c]
E (9-12)	E	0	10	79	599	-	Made AYP[d]
F (9-11)	F	35	12	85	-	565 or 545	Opened 2011
G (9-11)	G	30	12	60	-	565 or 545	Opened 2011

[a] *API: Academic Performance Index* in CA. Score out of 1,000. Schools are expected to score above 800.
[b] New schools, *API Pre* is the API of the school students would have attended or attended before.
[c] Program Improvement Year 5. Has not made Adequate Yearly Progress for five consecutive years.
[d] Made Adequate Yearly Progress last year with all subgroups and related measures.
[e] Program Improvement Year 1. Did not make Adequate Yearly Progress in 2010–2011.

Table 3

School Demographics by Racial Subgroup

School (Grades)	Total Enrollment	% African American	% Hispanic	% Asian	% White	% Multiple Responses
A (5-6)	271	11	86	<1	<1	<1
B (7-12)	694	5	87	0	0	0
C (9-11)	384	9	90	0	0	1
D (9-12)	1.380	57	42	<1	<1	<1
E (9-12)	348	<1	98	<1	<1	<1
F (9-11)	485	8	91	0	0	1
G (9-11)	531	13	87	0	0	0

Principal experience ranged from first-year principals (Schools E, F, and G) up to one veteran leader with more than 10 years' experience in both traditional public and private schools (School C). The three new schools, where the veteran leader served with two new principals, shared one campus opened in the fall of 2011 (Schools C, F, and G) through LAUSD's Public School Choice Initiative (PSC). This new campus housed three Small Learning Community (SLC) schools, which were financially and administratively independent of one another. However, at times staff at the three schools worked collaboratively on common structures like professional development and campus culture through a Campus Wide Coordinating Council (CWCC). Two of the schools were traditional LAUSD governance models (Schools G and F), and one was an independent charter with nonunionized staff, by choice (School C). In total, three of the participant principals led schools that were independent charters (Schools A, B, and C).

School C was the third school to open in a Charter Management Organization (CMO) that at the time of this study had three campuses, completing a full K-12 grade pipeline for students in the South LA Community (the twelfth grade was added at the high school in 2012–2013 because it was a new school). The two established schools in the CMO, which were not in this study, were considered high-performing model schools, both populated by students from low-income, minority families. A second CMO chose to join this study, enrolling not only the school leaders of their two existing schools (Schools A and B), but also the Chief Innovation and Academic Officer, the Director of Student Services, and a current Assistant Principal, who took over in 2012–2013 as the Principal (School B). The principal at the time of this study later founded the CMO's second middle school and third school overall in the summer of 2012. The organization across the leadership level indicated intense interest in building growth mindset

norms and requested to have more than just the principals attend the RLP sessions and classroom data collection walks.

In addition to the participating principals, for triangulation purposes, each school invited a volunteer sample of teachers and students to attend focus groups. At each site, between five and 10 teachers detailed their perceptions and experiences over the five months of the study. Students were also asked to participate.

To recruit sites and participants, after gaining UCLA Institutional Review Board (IRB) approval from the Office of the Human Research Protection Program (OHRPP), I obtained approval from LAUSD's Committee for External Research Review (CERR). This approval required prior approval from the Local District Superintendents for permission to recruit principals. This permission was needed before participants were asked to join the study to ensure that the local district leaders agreed this study was an acceptable addition to the professional development of their principals. The approved invitation and enrollment flyer (see Appendix I) were then distributed to leaders in the two approved local districts and Charter Management Organizations (CMO).

I invited only principal participants from qualifying sites to join the sample, using purposive sampling criterion (Merriam, 2009). To be included in the population of sites, a school was required to score over 50% free or reduced lunch status and more than 50% Black or Latino student population. Schools performing at or below the state API bar of 800 were recruited first, due to their pressing need for academic growth. The school sites that exhibited these criteria were shown in Chapter 2 to possess the greatest need for confronting threats to learning and performance.

Data Collection

Baseline and final site visits to each sites' classrooms provided principals with the data needed to inform the work they did to bring about growth mindset norms. Without objective knowledge on what norms existed before and after their efforts, these principals would have been working subjectively throughout the action research and would likely have had a more limited perceived experience. Observations I made of the reflection, learning, and planning sessions provided data on the experiences of the principals regarding their collaborations, their implementations of improvement processes, and their perceptions on the drivers and barriers affecting their school culture building actions. During the sessions, principals completed online journals maintained on Google Docs at the start of each session to inform the inquiry on the experience of principals doing this work. Documents that leaders brought to sessions provided me with review materials that further informed the inquiry on the types of actions principals implemented at their schools. These documents also served to confirm what the principals shared in reflection sessions and helped to triangulate their perceptions and experiences. The final interview with each principal, held after the final classroom walks, gave leaders the opportunity to reflect on the previous five months and additionally to share what they planned to do at their sites in the following year. Additionally, Google Moderator was used for a final member check on the near-final draft of the findings. Besides a check for agreement by the principals on the study's results, the member check elicited some additional data and improved wording on the perceptions about their experiences and processes taken, as well as on barriers and drivers to bringing about the desired norms.

Over five months, three 90-minute reflection, learning, and planning sessions were held for the principals during the action research period of January to May, 2012. I planned and

facilitated these sessions and audio recorded them for later transcription. Each session provided data augmenting the leaders' personal reflections, which they typed into a Google Document, shared only between the researcher and participant principal. At each session, the principals shared as a group on developments that resulted from the actions they took at their sites. This group experience allowed them to share perception data in each session as the school culture change process matured (or did not mature) in their schools. The sessions also included data observed on the principals' learning about and exploring the available research on stereotype threats, the Pygmalion effect, school culture norms, and mindsets, which I presented (see Appendix D). The remaining portion of each session included the action plans (as ImpleMaps) collected in their online journals (see Appendix H). Observations of all three components yielded ample data to reveal the principals' experiences in implementing strategies at their sites, as well as what they perceived to be effective and ineffective when acting to embed growth mindset norms.

Further data were collected through audio-recorded and transcribed focus groups held at each site with voluntary and randomly selected groups of between five and 10 teachers. Focus groups were also held with students willing to share their perceptions. The focus group protocol used with teachers yielded data to triangulate and further inform all three research questions in this study. Additionally, data were needed to reveal what students experienced as a result of principals implementing the growth mindset norms in their schools.

Immediately at the start of data collection, all schools were given random letter tags (School A through G); principals were given corresponding codes names (from Dr. Arendt to Dr. Giroux). In the Principal Consent Form (see Appendix J), participants were assured that my intention in this study was to bring significant benefit, not harm, to their schools. Thus, the

random tags were used to protect their identities and school names at all times unless the principals desired otherwise in later publications. Teachers and students included in focus groups were also given random identity-protecting tags to prevent associating their comments with their schools. Teachers who chose to participate in the focus groups signed the consent form for adults, and students who participated in the focus groups had their parents sign a consent form for minors. Students between the ages of 13 and 17 were also asked to sign the child assent form. Although confidentiality agreements were collected with teacher and student names on the forms, during the data collection in focus groups, names were not shared during active recording.

All transcribed data was secured through 10-character password-protected storage on hard drives and computers. Two hard drives provided backup for the computer that was used to store and analyze all the data. A 10-character password-protected "Cloud Storage" online backup service was used as well. To aid in all qualitative coding activities, the software program HpyerRESEARCH was utilized.

Data Analysis

The baseline and final school site visits at the schools that applied the growth and fixed mindset framework produced a simple tally, as well as a score representing the percentage of growth mindset, fixed mindset, and missed-opportunity data collected from each school. A sample final report can be viewed in Appendix H. This report was created electronically using Google Forms and Google Spreadsheets, integrated online tools used to manage the framework data. Principals used iPads during their visits to input data into the forms. On the final report, a simple percentage point increase was calculated for each norm at each site. Next, individual and overall norm change calculations were made for each of the 11 norms observed. Based on the

overall results seen in the participating schools, an ordinal ranking was assigned as follows: *high norm prevalence change*, *moderate norm prevalence change,* and *no norm prevalence change* (See Table 4 for band criteria).

Table 4

Norm Prevalence Band and Norm Prevalence Change Bands

Norm Prevalence Bands		**Norm Prevalence Change Bands**	
Prevalence Band	**Observation Criteria**	**Change Bands**	**Change Criteria**
Highly prevalent	66 to 100 percent	High norm prevalence change	Increase least 4 individual GMNs to *highly prevalent* and/or *moderately prevalent* Reduce at least 2 individual FMNs to *moderately prevalent* or *not prevalent*
Moderately prevalent	33 to 65 percent	Moderate norm prevalence change	Increase 2 or 3 individual GMNs to *highly prevalent* and/or *moderately prevalent* Reduce at least 2 individual FMNs to *moderately prevalent* or *not prevalent*
Not prevalent	0 to 32 percent	No norm prevalence change	Increase no more than 1 norm in any prevalence band

Following the ordinal ranking, the implementation drivers highlighted in Chapter 2 from the implementation science work by Blase et al. (2012) at the *National Implementation Science Research Netwo*rk (NIRN) were applied to illuminate key drivers and barriers. As mentioned previously, the drivers used in this study were organized into three domains: organizational drivers, competency drivers, and leadership drivers (see Figure 1).

Transcripts of the RLP sessions, reflection journals, action plans, focus groups, individual final interviews with principals, and documents created by other school personnel were analyzed with qualitative coding (Creswell, 2009; McNiff & Whitehead, 2006). I was the only researcher observing and audio recording, coding data, and writing up descriptions and findings.

Transcripts were loaded into HyperRESEARCH, which provided code reports to extract data to answer each inquiry in terms of the ordinal rankings of norm change, how leader success levels mapped to activities used to implement, and drivers and barriers to implementation.

A codebook was developed to aid in the data analysis methods of this study. Data matching several predetermined themes, with corresponding codes selected from the theories underpinning this study, were used throughout data analysis. The themes represented actions/strategies used to implementing the framework, each of the implementation drivers, the barriers to implementation (or absence of a driver), and actions/strategies suggested for future use.

Once the initial coding of all data was complete, detailed descriptions of the categories were written, resulting in the synthesis of the final themes. These themes determined the major findings and emerged after an interpretative process that included situating them around the theories this study builds upon (Creswell, 2009). Before writing Chapter 4 to detail the study findings, I invited the principals to view the initial findings on Google Moderator, where they made comments, voted to show agreement, and posted suggested changes. Data collected from this final member check was reintegrated into the analysis for refinement and generation of the final findings found in Chapter 4 of this study.

To organize the knowledge captured in this study from the experiences and perceptions of the leaders who participated, two lenses were applied in succession to derive the key findings and list of attempted strategies (see Figure 2). All data collected over the five-month period were first considered in relation to each principal's success in bringing about norm prevalence change at their schools, and second, were considered in relation to how the data matched known

implementation drivers (Blase et al., 2012), or the absence of those drivers, which would then be considered barriers.

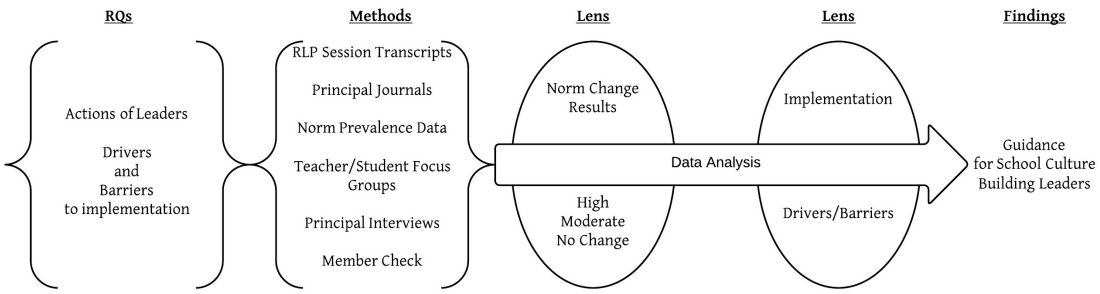


Figure 2. Conceptual Model for Deriving Findings

The first lens revealed that few principals increased the prevalence of growth mindset norms (GMN) while also reducing the prevalence of fixed mindset norms (FMN) between the baseline and final observations of their school environments. (The full results of each school/leader can be found in Appendix L.) In Table 5, results of the norm prevalence walks indicate only one principal (School C, Dr. Cixous) achieved high norm prevalence change. Two principals achieved moderate norm prevalence change (Schools B, led by Dr. Bordo, and School F, led by Dr. Flecha). Norm prevalence change bands are defined in Table 4.

Table 5

Increase of Growth Mindset Norms and Decrease of Fixed Mindset Norms (Individual)

	Increase of Individual Growth Mindset Norms and Decrease of Individual Fixed Mindset Norms			
	Growth Mindset Norms (GMN)		**Fixed Mindset Norms (FMN)**	
Principal	# Δ to H [a]	# Δ to M [b]	# Δ to M [c]	# Δ to N [d]
Arendt	0	0	0	0
Bordo	0	4	2	0
Cixous	6	2	1	2
Dabashi	0	2	1	0
Eagleton	0	1	1	3
Flecha	2	3	0	0
Giroux	0	0	0	2

[a] Number of individual norms that increased to *highly prevalent* (67% to 100% of observed cases).

[b] Number of individual norms that increased to *moderately prevalent* (33% to 66%of observed cases).

[c] Number of individual norms that decreased to *moderately prevalent* (33% to 66% of observed cases).

[d] Number of individual norms that decreased to *not prevalent* (0% to 32% of observed cases).

The scores of the four other principals who participated in the study did not show a change in individual growth mindset norms to highly prevalent. Additionally, they did not have any noteworthy net change in norms overall (see Tables 6 and 7), nor did they have cultures that were predominately growth-oriented. Instead, most of these four schools showed the presence of a greater number of fixed mindset norms observed in their school cultures and in most cases had increased the prevalence of many fixed mindset norms over the five months.

Table 6

Net Norm Prevalence Change

	Net Norms Change					
	Growth Mindset Norms			**Fixed Mindset Norms**		
Principal	Δ # H [a]	Δ # M [b]	Δ # N [c]	Δ # H [a]	Δ # M [b]	Δ # N [c]
Arendt	0	-3	+3	+1	-1	0
Bordo	0	+4	-4	-2	+4	-2
Cixous	+6	-4	-5	-2	0	+2
Dabashi	0	+2	-2	+1	+3	-4
Eagleton	-1	-1	+2	-1	-2	+3
Flecha	+2	+2	-4	0	+6	-4
Giroux	0	-3	+3	-1	+1	0

[a] Change in how many Highly Prevalent Norms exist (67% to 100% of observed cases).

[b] Change in how many Moderately Prevalent Norms exist (33% to 66% of observed cases).

[c] Change in how many Not Prevalent Norms exist (0% to 32% of observed cases).

Table 7

Number of Growth and Fixed Mindset Norms

	Number of Growth and Fixed Mindset Norms Before and After Study Period											
	Growth Mindset Norms						Fixed Mindset Norms					
Principal	**B-H**	**F-H**	**B-M**	**F-M**	**B-N**	**F-N**	**B-H**	**F-H**	**B-M**	**F-M**	**B-N**	**F-N**
Arendt	0	0	3	0	8	11	1	2	2	1	8	8
Bordo	0	0	3	7	8	4	2	0	0	4	9	7
Cixous	1	7	4	3	6	1	2	0	2	2	7	9
Dabashi	0	0	0	2	11	9	1	2	2	5	8	4
Eagleton	1	2	2	1	8	10	2	1	3	1	6	9
Flecha	0	2	1	3	10	6	1	1	1	7	9	5
Giroux	0	0	3	0	8	11	3	1	1	2	7	7

B-H: Baseline walks noted a Highly Prevalent Norm (observed in 66% to 100% of cases)

F-H: Final walks noted a Highly Prevalent Norm (observed in 66% to 100% of cases)

B-M: Baseline walks noted a Moderately Prevalent Norm (Observed in 33% to 65% of cases)

F-M: Final walks noted a Moderately Prevalent Norm (Observed in 33% to 65% of cases)

B-N: Baseline walks noted a Not Prevalent Norm (Observed in 0% to 32% of cases)

F-N: Final walks noted a Not Prevalent Norm (Observed in 0% to 32% of cases)

The second framework, or lens, through which to view the findings involved the implementation drivers (Blase et al., 2012) found in the social science implementation literature discussed in Chapter 2 (see Figure 1). As previously discussed, the organizational drivers used to code and analyze the findings comprise (a) forming a facilitative administration, (b) having a decision support data system, and (c) enacting systems interventions when issues arise. The competency drivers used to consider the data included (a) selecting staff to lead the implementation, (b) providing high-quality training to staff, and (c) supporting staff with

coaching. The leadership drivers consisted of (a) being technical and (b) adaptive. The final driver connects the competency and organizational drivers through performance assessment.

The dual lenses revealed a clear path for future school leaders. With the first lens, I measured the activities employed by principals through their successes in bringing about growth mindset norms. The second lens involved viewing progress through the implementation drivers framework. Many of the distinguishing practices found in the successful principals' actions were obvious implementation drivers. Similarly, the lack of discernable drivers in the actions of the ineffective principals was perceived as evidence of barriers to bringing about the norms they had intended to embed into their cultures.

Ethical Issues

The most significant ethical threat in the study was that five of the principals in the study were leaders with whom I was already acquainted through my professional work as a school turnaround consultant. To mitigate this issue, none of the principals was a subordinate from my professional work, nor did any of the sites pay for the consulting services my work provided. These sites benefited from my consulting because my organization acquired philanthropic funds on their behalf. The participation terms are presented in the Principal Consent Form (see Appendix G), which details the working relationship and agreed-upon expectations between the participating principals and me, as the principle investigator.

As the researcher, I personally funded the cost of an iPad 2, or a $630 stipend for those with iPads already, to ensure each member had an incentive to continue participating throughout the duration of the study. I felt this was needed because of the amount of time the principals would need to commit in their effort to effect norm changes at their schools. I also wanted to encourage their attendance at all sessions despite their demanding positions and personal

workloads. There was no need to conduct a random selection of the final participants, because the number of principals who were willing to participate was only one person short of the maximum number of participants. The local district MOU and Principal Consent Form specified the compensation and terms for participation in terms of specific benchmarks, such as attendance at sessions and the allowance for the collection of each piece of data needed in the study. The participants were not rewarded for the quality of their participation, the results achieved, or their level of effort.

Reliability, Validity, and Generalizability

Maintaining the reliability, validity, and generalizability of the results from this study required several precautions. The overall design of the study included structures to enhance the voices of all the principals engaged in the work of bringing about growth mindset norms. Throughout, the perspectives of the principals, teachers, and students were included in the findings and discussion. Additionally, their perspectives were triangulated and validated by checking back with the principals on the initial findings through a member check.

All transcripts were controlled for quality with a second listening of the recordings, conducted in parallel with a reading of the transcripts, to ensure accuracy of the transcriptions I performed. To assure codes did not drift in meaning, I expanded the code definitions in high detail (see Appendix K) as they emerged. Coded data were regularly quality-checked and cross-checked with the code book and the code definitions during analysis to ensure accuracy and dependability during categorization and theme creation (Creswell, 2009).

Additionally, validity threats were mitigated by ensuring inter-rater reliability when the growth and fixed mindset norms framework was used to conduct site visits. During the collection of all site observations, each principal and I worked together to find agreement on

what was occurring at the site and in each classroom. After each classroom visit, the principal and I debriefed for two to 10 minutes about the norms perceived to be present, with each of us providing our evidence to back up our ratings on the observation form. Together, we recorded a single agreed-upon observation for each classroom on the data form.

Further threats to validity were minimized when the participatory and advocacy-oriented process of reflecting, learning, and planning culminated in principals' own collective agreements about what best practices other leaders need to consider. The results of this study were not based on one principal or sites' experiences. The perceptions driving the results belonged to each individuals and not to that of the researcher. Triangulation was used to validate principal perceptions on all of the study's inquiries by holding focus groups with teachers and students at each site. All findings and patterns were given a final review by the principals using a virtual member check process to assure that researcher bias did not influence the findings.

To increase generalizability of this study's findings, the study included a broad group of principals and schools. The group of principals had diverse backgrounds and experiences as leaders. Additionally, the sample of schools included one current middle school and six high schools drawn from both traditional and charter schools (see Tables 1 and 2). However, the findings apply only to these types of schools and educators within the Los Angeles Unified School District (LAUSD). Nevertheless, school leaders of all sorts will find important guidance when considering norm change, and in particular, when implementing growth mindset norms.

Doubts about trustworthiness were mitigated through the advocacy/participatory approach. Although I was present during all of the study events, the study was designed and conducted to reduce the likelihood of mistakes, biases, and oppressive forces. Meticulous care for data collection accuracy, triangulation based on a diverse set of schools and principal

experience, and member checks of the preliminary findings—all these activities constitute best practices and provided support for the generalizability of this study to other similar situations in which school leaders seek to positively infuse growth mindset norms in their own high-minority, low-income schools.

Summary

This study employed qualitative action research to document the experiences of and processes taken by principals in high-minority, low-income schools in which leaders seek to build growth mindset cultures to confront threats to learning and performance. The methodology was designed to help leaders reflect deeply about their school cultures, to allow them to learn about threats to learning and growth mindset norms, and to help leaders plan actions for embedding the norms into their cultures. This process was aimed at empowering other school leaders to confront similar threats to their students' learning by building growth mindset norms into their school cultures from the resulting guidance on best practices found in Chapter 5.

Chapter 4: Findings

I set out in this participatory action research study to confront the achievement gap experienced by Black and Latino students when compared to White and Asian students. In particular, the study was designed to empower leaders who want to build norms that remove threats to learning and performance from school cultures, including fixed mindsets (Blackwell et al., 2007), stereotype threats (Steele, 1997), the Pygmalion effect (Rosenthal & Jacobson, 1968), and negative school culture norms (Deal & Peterson, 1994). Leaders have enthusiastically embraced growth mindset research for some time, yet have struggled to find guidance for using it to improve their schools. In this study, I sought to provide leaders with a framework and guide for implementation of growth-oriented school culture norms. What resulted was implementation insights on norm change, based on the experience of seven leaders in Los Angeles Unified School District.

Fixed mindsets are based on a belief that intelligence is determined genetically. When held by teachers, such a belief can lead students to perceive that they lack the potential to succeed, discouraging them from persisting through academic challenges. Stereotype threats can occur when students divide their attention while performing an academic challenge out of concern that the teacher might not believe in their ability to achieve due to a racial or gender stereotype. The Pygmalion effect is a self-fulfilling prophecy that occurs when teachers believe a student has a particular intellectual potential and treats that student in a way that fulfills the belief. Negative school culture norms are those common practices in a school, whether intentional or not, which negatively influence student achievement.

I wanted to learn what principals could do to build intentional positive school norms, such as those with a growth mindset orientation. When a principal, teacher, student, or parent

has a growth mindset, he or she communicates a belief that one's intelligence is malleable through effort, persistence, and focused practice. When a school embeds growth-oriented norms into its culture, the instructional behaviors consistent across the school communicate at a minimum that all learners can grow their abilities through focused and consistent effort. This study addressed the following research questions:

1. What actions did principals take to build schoolwide norms of growth mindsets at their high minority, low-income schools, according to principals and teachers?
2. According to principals and teachers, what were the most effective actions (drivers) when building schoolwide norms of growth mindsets?
3. According to principals and teachers, what were the least effective actions (barriers) when building schoolwide norms of growth mindsets?

Over a five-month period, principals at seven secondary schools in Los Angeles Unified School District (LAUSD) met with me for three sessions that involved reflection, learning, and planning. In the sessions (see Appendix D), the leaders reflected on the state of their school cultures, explored the research behind the threats to learning and performance, learned about the known interventions for building growth mindsets, learned strategies for embedding the norms, watched videos of instruction, and shared strategies used at their sites. Additionally, leaders reflected on the norms present at their schools; their reflections were based on the assessments of their cultures that the principal and I conducted together. Each principal shared his or her site action plans.

Each leader intended to embed growth mindset norms into his or her school culture, while also reducing any apparent fixed mindset norms, using the growth and fixed mindset norm framework I developed for this study. The framework included 11 norms designed to

communicate growth mindsets through the behaviors of teachers and students, including such practices as giving students incremental clues and cues when they need support and celebrating mistakes as key learning opportunities (see Appendix E). Each growth mindset norm had a corresponding fixed mindset norm. Both sets of norms were constructed to be observable actions, such as "Teacher praises and gives feedback on effort and strategy" (representing a growth mindset) or "Teacher praises and gives feedback on intelligence/smartness, correctness, and/or behavioral compliance" (representing a fixed mindset). The mindset norms were derived from research on culture norms found in schools and indicators of growth and fixed mindsets (Blackwell et al., 2007; Deal & Peterson, 1994). Other examples of growth mindset norms included setting up academic challenges in a lesson for all students, and celebrating personal growth rather than just top academic honors.

I built the framework into an online observation tool for tablets, smartphones, and laptops. The tool allowed leaders to enter data into a data record as they visited classrooms and other parts of their schools, noting if they observed each of the 11 growth or fixed norms. When they entered data for each norm on the tool, they marked whether the norm was communicated through an action or an artifact. Examples of artifacts, in which norms could be observed, included graded work on bulletin boards, teacher writing on white boards or SmartBoards, teacher-created lesson materials and lesson plans, teacher writing during instruction, written teacher feedback on student work, and student work products created during instruction. Additionally, observers could indicate when a missed opportunity was observed for a norm. That is, neither the specific growth nor fixed norm was present, but there was an opportunity to enact one of the growth-oriented norms. Observers did not record specific anecdotes or details

on the teacher actions, descriptions of the artifacts, or direct quotes. However, observers had the option of taking notes, which most principals in this study did not do.

Because multiple communications and actions occur during a lesson, each growth and fixed mindset norm can be present in a classroom culture at the same time. For example, a teacher can "bail out" one student by telling him or her an answer when he or she is challenged, which demonstrates a fixed mindset norm. In the same lesson, another student can be incrementally cued to reach the correct answer when he or she is challenged with the same task, which represents a growth mindset norm. To ensure accuracy for every observation in this study, immediately after each individual classroom visit, the principal and I discussed what we had jointly observed, before entering the data record for that classroom. In these discussions, we shared teacher actions we observed that supported marking either a growth or fixed norm. Evidence statements followed a pattern: "I heard the teacher go to each group and respond to all questions by telling them the answers when they struggled. She did not prompt them through questions to lead them to finding the answers on their own." In such a situation, we coded the corresponding norm of "Teachers bail out students who struggle (by telling and/or doing the task for the student)," concluding that there was a fixed mindset norm in that classroom. The debriefing processes ensured each observation represented accurately what we both witnessed. As noted before, I did not require the recording of individual teacher anecdotes, just the presence of a growth mindset norm, fixed mindset norm, and/or missed opportunity, based on teacher and student actions and artifacts.

At each school, we strove to visit over 20% of the teachers during pre- and post-observations. In all cases, the principal and I were able to visit between 30% to 50% of the

teaching staff. At each site, the principal and I were able to visit the same teachers in pre- and post-observation visits to classrooms to ensure our data were matched between visits.

I created a scale to indicate the prevalence of each of the growth and fixed mindset norms across each school culture during the pre- and post-observations (see Table 4). If a growth or fixed mindset-oriented norm was observed in 100% to 66% of the cases at a site, I considered it *highly prevalent* in the school culture. When a norm was present in 65% to 33% of the classrooms, I considered it *moderately prevalent* at the school. When a norm was only seen in 32% to 0% of the observed classrooms, I considered it *not prevalent* in the school culture.

I also created a scale to measure positive individual norm change (see Table 8). This allowed principals to track their goals of increasing growth mindset norms and decreasing fixed mindset norms. The findings showed cases where instances of high prevalence, moderate prevalence, and no norm prevalence change were observed in the school cultures. Only positive norm prevalence change was detailed in the findings. High or moderate norm prevalence changes for a growth mindset norm indicated a norm had become more prevalent between the pre- and post-observations. In the case of a fixed mindset norm, if a norm decreased, and became less prevalent, the findings showed where this occurred at high or moderate change levels. Important to note here, principals were informed of the number of decreased growth mindset norms and increased fixed mindset norms observed at their schools. This tracking was not the aim of the study; however, the results for net norm change can be viewed in Appendix L.

I defined a high norm prevalence change as a situation in which a principal had increased at least four individual growth mindset norms to highly prevalent and/or to moderately prevalent. I defined a moderate norm prevalence change as a situation in which a principal had increased two or three individual norms to highly prevalent and/or moderately prevalent. A lack of norm

change, i.e., no norm prevalence change, was defined as a situation in which a leader had either increased only one growth mindset norm, to any degree, or did not increase the prevalence of any growth norms.

Three of the seven principals achieved varied degrees of success using strategies during the study period to build growth mindset norms into their school culture (see Table 8). One principal achieved high norm prevalence change and two principals achieved moderate norm prevalence change. Four principals were not able to bring about any positive norm prevalence change. The findings showed that what distinguished the successful group from the unsuccessful group was intentional norm building activities involving strategies that adhere to the known implementation drivers (Blase et al., 2012). By implementation drivers, I mean intentional actions and adult behaviors specifically used to implement a practice in a school. For example, a known implementation driver is providing teachers with coaching. This coaching gives teachers high quality, regular feedback, allowing them to reflect on their level of implementing the practice. There were barriers for the unsuccessful leaders who did not achieve any positive norm change. Not achieving change meant that there was an absence of certain key implementation drivers.

Table 8

Increase of Growth Mindset Norms and Decrease of Fixed Mindset Norms (Individual)

	Increase of Individual Growth Mindset Norms and Decrease of Individual Fixed Mindset Norms			
	Growth Mindset Norms		**Fixed Mindset Norms**	
Principal	# Δ to H [a]	# Δ to M [b]	# Δ to M [c]	# Δ to N [d]
Arendt	0	0	0	0
Bordo	0	4	2	0
Cixous	6	2	1	2

Dabashi	0	2	1	0
Eagleton	0	1	1	3
Flecha	2	3	0	0
Giroux	0	0	0	2

[a] Number of individual norms that increased to *highly prevalent* (67% to 100% of observed cases).
[b] Number of individual norms that increased to *moderately prevalent* (33% to 66% of observed cases).
[c] Number of individual norms that decreased to *moderately prevalent* (33% to 66% of observed cases).
[d] Number of individual norms that decreased to *not prevalent* (0% to 32% of observed cases).

In this chapter, after categorizing the change or lack of change among the seven principals, I then detailed key norm-building strategies attempted by the principals. I applied two successive analyses to derive the key findings and list of strategies instituted by principals. First, I collected data to determine the success level of each principal in bringing about norm change at his or her school. I contrasted the baseline and final norm assessment walks in the context of the growth and fixed mindset norm framework. Next, I matched the success levels with the known implementation drivers (Blase et al., 2012). Where there was no change, I matched the absence of key drivers to discern why the leaders' plans did not become a reality within their school cultural practices. I concluded the findings by highlighting both the drivers and barriers to norm change, as perceived by the principals.

Principal Successes at Changing Norms

The first analysis revealed that only two principals increased the prevalence of growth mindset norms while also reducing the prevalence of fixed mindset norms. A third principal increased the prevalence of growth mindset norms, but did not reduce the prevalence of any fixed mindset norms. For these findings, I measured baseline norms and then at the end of the project with each principal, I measured final norms by observing the school environments with

the growth and fixed mindset norm framework tool (see Appendix H). A list of all the norms can be found in Appendix A.

Only Dr. Cixous achieved high norm prevalence change. Dr. Cixous's activities resulted in an increase to highly prevalent in six growth mindset norms and an increase to moderately prevalent in two norms over the study period. At Dr. Cixous's school, over 66% of her teachers exhibited the following norms: "Teachers communicate effort and practice are the path to mastery," "Teachers model and teach persistence," "Teachers give praise and feedback for effort and strategy," "Teachers communicate that mistakes are key learning opportunities," "Teachers give students performance tasks and constructed response type activities," and "Teachers recognize and/or celebrate individual growth at least as much as top achievers." In addition, Dr. Cixous reduced one fixed mindset norm from highly prevalent to moderately prevalent: "Teachers do not provide academic challenges for all." Two norms were reduced to not prevalent: "Teachers give answers to students when they don't have them," and "Teachers praise and give feedback on intelligence/smartness, correctness, and/or behavioral compliance."

Two other schools achieved moderate norm prevalence change, as evidenced by their increase of at least three norms to highly prevalent or moderately prevalent. Mrs. Bordo increased to moderately prevalent the norms "Teachers provide academic challenges for all," "Teachers communicate effort and practice are the path to mastery," "Teachers give praise and feedback for effort and strategy," and "Teachers communicate that assignments and assessments are about learning and personal growth." Mrs. Bordo and her assistant principal were also able to reduce to moderately prevalent the fixed mindset norms of "Teachers do not provide academic challenges for all" and "Teachers give answers to students when they don't have them." However, at Mrs. Bordo's school, the following fixed mindset norms also increased to

moderately prevalent during that study period: “Teachers model giving up: No or not enough thinking and/or going time given” and “Teachers communicate that assignments and assessments are designed to compare, rank, and grade students.”

In addition to Mrs. Bordo, Dr. Flecha, who achieved moderate norm prevalence change overall, increased to highly prevalent the norm, “Teachers give incremental clues and cues when students are not there yet and during questioning.” Dr. Flecha was also able to increase to moderately prevalent “Teachers provide academic challenges for all” and “Teachers model and teach persistence: Students are allowed to have ample think and do time during activities.” However, at Dr. Flecha’s school, it was discovered that six fixed mindset norms increased to some degree during the same period.

All four of the other principals who participated in the study had no individual growth mindset norms change to highly prevalent, while only two (Dr. Dabashi and Mr. Eagelton) increased any norm to moderately prevalent. Instead, three of these four principals (Mrs. Arendt, Dr. Dabashi, and Dr. Giroux) presided over an increase in fixed mindset norms and a decrease in growth mindset norms by the end of the study period. Mr. Eagelton was the only leader of the four who led a relatively stable school culture in maintaining growth mindset norms by increasing only one norm, to only moderately prevalent. Mr. Eagelton also reduced the presence of four fixed mindset norms to some degree. Across these four schools, there were no noticeable commonalities on which norms became more fixed during the study period.

In summary, all seven principals, including the four with no norm prevalence change, planned to build growth mindset norms at the start of this study. Three of the seven achieved some form of positive change during the five months. However, all principals communicated

that they enacted strategies to build growth mindset norms and to reduce the presence of any fixed mindset norms.

> Research question 1: What actions did principals take to build schoolwide norms of growth mindsets at their high minority, low- income schools, according to principals, teachers, and students?

Finding 1

Principals and other contributing leaders in this study employed a diverse set of strategies intended to build growth mindset norms and to reduce fixed mindset norms. The strategies discussed here are those practices that explicitly related to building growth mindset norms at the schools in this study and are those that principals perceived to be powerful in their quest to build the norms. Additionally, strategies the leaders in this study recommended for others are detailed in Chapter 5. The list below was generated from the principals' lived experiences during the study period.

Mrs. Arendt, Mrs. Bordo, Dr. Cixous, and Mr. Eagelton suggested that sharing the assessment data from the growth and fixed mindset norm framework walks with staff had great impact at their schools. Mrs. Bordo's assistant principal noted,

> We looked at their data, did a reflection, [asking] what do you think about this? Which do you live up to? This caused some teachers to run out and buy the book [*Mindsets* by Dweck] and probably changed their practice in their classrooms.

Each of the leaders using this strategy also communicated that he or she planned to continue the use of norm data collection to further develop the norms in their cultures in the future. Each suggested that their publicizing of schoolwide results allowed teachers to see their personal results over time, as well as to gain insight into the school's trends.

Dr. Flecha noted another value in collecting and analyzing norm data as a strategy for implementation. She explained that when she signed up for the study, she was under the

assumption her hand-selected staff was already growth mindset norm-oriented. At the end of our baseline data collection walk of her school, Dr. Flecha said that the process had been valuable, because it revealed that the staff was actually unconsciously creating fixed mindset norms across her very new school. When she learned from the baseline norm assessment that her staff was promoting fixed mindset norms and were likely self-reporting the building of growth-oriented norms, she became highly invested in changing the culture. After the initial assessment of her school culture, she found motivation to act.

In the second collaboration session, another key growth mindset norm-building strategy emerged. Three principals noted plans to adopt a "3- to 10-second wait time policy" when calling on students who wanted to participate after a teacher posed a question. This strategy, selected by Mrs. Arendt, Mrs. Bordo, and Dr. Cixous, prohibited students from calling out, because those who needed more thinking time sometimes disengaged and built helplessness techniques. The growth mindset norm of "Teachers model and teach persistence: Students are allowed to have ample think and do time during activities" was explicitly addressed through this practice. The principals noted it was a key activity they wanted to implement from a list of suggested strategies I generated for the learning phase of the session (see Appendix F). The Director of Student Services for Mrs. Arendt and Mrs. Bordo's schools noted, "It seems like such a small gesture, but, oh, what a big impact it can have!" In my baseline data collection walks of all seven sites, I observed and recorded in my field notes that every school allowed students' calling out as the norm. Baseline data from all seven schools confirmed that no school had this growth mindset norm highly prevalent yet. As a result, only a small group of the most vocal and quick students across the seven schools participated in academic discussions. This strategy was most widely adopted at Dr. Cixous' school, where the growth norm that this strategy addressed

became highly prevalent. After five months and a schoolwide focus on changing the norm, the norm grew to 80% of the classrooms observed on the growth and fixed mindset norm framework. It was noted that teachers allowed the needed wait time during questioning to engage the majority of the class.

Another strategy described during the second collaboration session by the Director of Student Services for Mrs. Arendt and Mrs. Bordo's schools was a decision to start including in the biweekly parent newsletters a parent tip related to building growth mindset norms at home. The Director explained how the newsletter would also provide ways to reduce any fixed mindset norms in the home. She reported in the third collaboration session and in the final interviews at each of the schools, as did her teachers in the focus group, that the first edition reflecting this practice had gone out to families. That section in their newsletter read as follows:

> As a parent do you give incremental clues to help your child figure things out on their own, or do you bail them out by giving them the answers and telling them what to do? By asking children questions rather than giving them the answers their brain is set in an active state of participation, rather than a passive state of listening. When children are in a passive state of listening they are less capable of solving their own problems or learning for the future. Too much lecturing or talking at children cause them to tune out, and negate their internal problem solving process altogether. So, the next time you feel obliged to tell your child what to do ask yourself how you can turn that directive into a question. Refrain from bailing your student out of tough situations by doing things for them or giving them the answers. Help them figure things out by asking them incremental questions or giving them little clues.

Given the key role parents play in the lives of students, leaders at the two schools indicated they would continue to design activities that help parents embrace the norms, parallel with the in-school development of teachers and students.

Dr. Cixous and her teachers shared another key developmental strategy in practice at their school for building growth mindset norms. In the final interview of the principal and in the focus group with teachers, they explained that filming a teacher while he or she worked to develop the

norms during their lessons, and having the larger staff observe the video as a model, was an effective strategy. According to Dr. Cixous, the staff jointly assessed the norms present on the growth and fixed mindset norm framework in the videos, which were watched during professional development time. This practice allowed the school to build a common picture of the norms in their classrooms and makes exemplars visible for the whole staff. Dr. Cixous also video recorded her teachers' lessons in order to give them personal DVD copies for their own reflection on the growth and fixed mindset norm framework. She indicated during her final interview that this video process can be empowering, because it sets up a structure wherein teachers are introspective about their classroom cultures they have built, without a coach or supervisor driving the teacher's reflection.

The key strategy (and only strategy) employed by Dr. Dabashi, as stated in his final interview, was that of developing staff on writing measurable higher order thinking skill lesson objectives. The practice had been initiated schoolwide during the preceding summer. The principal noted in his final interview, as did his teachers in their focus group, that this was the key activity related to building growth mindset norms. It was a growth mindset norm strategy in that teachers were expected to post the rigorous objectives for each lesson and to assess their teaching at the end of the lesson. This strategy addressed the norm "Teachers provide academic challenges for all." By using this strategy, the teachers' attention was drawn to how successful they were at executing the challenging lesson for all students. Teachers were expected to measure their success at reaching the higher order objective with all students during the close of each lesson through an exit ticket or with a similar formative assessment technique. Measuring each child's success toward the daily objective by checking understanding on a summary task allowed teachers to determine which children had reached the rigorous learning goal and which

children would need further support. However, only one session was provided in a preservice training day to all teachers. In Dr. Dabashi's final interview, he said that his school would focus again on this strategy during professional development throughout the following school year. I detail more about this case in the barriers discussion. In Chapter 5, I also describe additional suggested practices that principals and their teachers suggest based on their own experiences. Additionally, in Appendix M, six further strategies are listed that emerged from the principals.

> Research question 2: According to principals and teachers, what were the most effective actions (drivers) when building schoolwide norms of growth mindsets?

Finding 2

Training and coaching were keys to high and moderate norm change. Training is a key driver. Both the high norm prevalence change principal (Dr. Cixous) and the moderate norm prevalence change principals (Mrs. Bordo and Dr. Flecha) provided some explicit form of professional development on growth mindset norms. They thus provided training, which is one of the competency drivers of the NIRN implementation model. Competency drivers are those activities instituted to build the capacity of staff to put the innovation into practice. Training encompasses the activities designed to help adults acquire skills and abilities. This includes developing teachers on background knowledge, theory, and the introduction of new skills needed to implement the innovation. Additionally, in this definition of effective training, adults are held accountable for producing outcomes (Blase et al., 2012).

Dr. Cixous, the high norm prevalence change principal, provided professional development or training multiple times throughout the year. She provided training during summer preservice development on the research behind growth mindsets and later during the study period on building growth mindset norms. The design of Dr. Cixous's school, as noted in its charter petition, included the philosophy of building growth mindsets in all children. In

addition, the school adopted from two sister schools a set of "scholarly traits," which Dr. Cixous described during her final interview as being closely aligned with many of the growth mindset norms. In alignment with the design of the school toward growth mindsets and using scholarly traits as a foundation, Dr. Cixous had her teachers read a scholarly article about growth mindsets during summer professional development. All teachers explicitly taught the "scholarly traits" at the start of the school year. All staff members were expected to reinforce the traits daily in classrooms and throughout the schoolwide culture. Her teachers confirmed during their focus group that teaching the traits was strongly aligned with building growth mindset norms. Dr. Cixous explained in the second and third collaboration sessions and in her final interview that she had further deepened the staff's study of growth mindset and culture expectations since the summer with the use of the growth and fixed mindset norm framework.

Dr. Cixous provided additional training on growth mindsets when staff returned from spring break. However, this time, the training focused explicitly on building growth mindset norms and reducing the presence of fixed mindset norms. She asked her staff to read the book, *Entertaining an Elephant* by William McBride (1997), about a burned out teacher of 15 years who regained his passion to teach. When the staff returned from break, Dr. Cixous conducted a professional development session that included giving them an excerpt of the novel copied on paper for them to annotate. She then gave them the growth and fixed mindset norm framework. They read the norms and discussed the specifics of each. Next, she asked the teachers to highlight places in the excerpt from the novel where any growth or fixed norms were described. Teachers then transferred their findings to an organization system she developed to record the norms. This professional development activity led to a staff-wide agreement to adopt a focus during the rest of the year on the following norms: "Teachers communicate that effort and

practice are the path to mastery," "Teachers model and teach persistence: Students are allowed ample think and do time during activities," "Teachers provide performance tasks and construct response type activities," and "Teachers recognize and/or celebrate personal growth: The school has systems to celebrate personal growth at least as much as celebrations for top achievers." The principal and I noted in our final norm assessment walk that each of the norms adopted by the staff in the professional development session had increased to become highly prevalent.

The moderate norm prevalence change principals, Mrs. Bordo and Dr. Flecha, also provided training for teachers. However, as they described in their final interviews, the development did not reach all of their teaching staffs. The two principals shared the growth and fixed mindset norm framework with some of their teachers and discussed application in the classroom. Dr. Flecha took the growth and fixed mindset norm framework to her instructional cabinet, which represented half of her teachers. She presented the framework to the instructional cabinet with an assumption that they had heard of the growth mindset research already. She was stunned to find out that the cabinet had not heard of the research. She explained,

> I was surprised they were not familiar with the book, or the study—they liked it. It made sense to them; they seemed to think it would make a big difference with our students. They may have shifted practice just from using it and being able to put a title on some of the things they are already doing or know they should stop doing.

After the teachers explored the framework and digested the norms during their cabinet meeting, Dr. Flecha recounted during her final interview that her staff shared complete agreement about adopting the growth mindset norms at their school. In the teacher focus group, they confirmed the experience of talking through each norm as a team was valuable and that it helped their individual classroom practice.

Mrs. Bordo's assistant principal, from the other moderate norm prevalence change school, also explained during our second collaboration session how she conducted professional

development one month into the study. The co-leaders of the school presented an adapted version of the PowerPoint I used in the first collaboration session to deliver the learning phase for the principals. In this PowerPoint, I described the threats to learning and performance, introduced the growth mindset research, and explored the growth and fixed mindset norms framework. Teachers confirmed in their focus group that knowing the research behind the framework and talking through each norm was valuable for improving their classroom climates. However, the training did not reach the whole staff, and during the final interview, the co-leaders said that it might be a reason for having seen only moderate norm prevalence change at their school.

Coaching is a key driver for norm change. Principals and teachers at the three positive norm change schools reported in their final interviews and focus groups that some form of coaching was provided to teachers on growth mindset norm building. Additionally, during their final interviews, they each described the coaching as a key driver in their success. Coaching is defined as the deepening of actions that ensure training is implemented properly by providing teachers with observations, feedback, and support that is embedded in their work (Blase et al., 2012; Joyce & Showers, 2002). Coaching is not about deficiencies; rather, coaching is a support that all professionals can use to grow rapidly. In this study, it was powerful both for implementation support and for intervention.

Dr. Cixous and her teachers described in the principal final interview and teacher focus group how coaching was provided to all of the teachers on building growth mindset norms. Additionally, coaching was provided as an intervention for those in need of extra support. The coaching was focused on reducing fixed mindset norms by having regular observations and debriefings on the teacher's performance within the framework. The principal described in her

final interview how she visited classrooms, collected data on the instruction and classroom climate, and held debriefings to give feedback specifically on the framework. In addition, she gave teachers feedback via their schoolwide observation tool. Dr. Cixous used an observations checklist adapted from successful teacher activities described in Doug Lemov's (2010) book *Teach Like a Champion*. When her data collection pointed toward specific teachers needing intensive support, she would go beyond the coaching provided to all teachers. Teachers requiring intervention coaching got intensive supports targeted at their norm change needs.

Mrs. Bordo and her assistant principal, whose school achieved moderate norm prevalence change, also indicated in the third collaboration session and final interview that the two leaders had provided teachers with coaching related to the framework. However, the coaching was only provided to those who reached out for support. The assistant principal explained that she coached interested teachers on the data collected in their classroom during the baseline data walk. She shared individual data with all of the teachers who attended the professional development session on the framework. In the session, the two school leaders debriefed with interested teachers on the observations from the baseline walks in the teachers' classrooms. The leaders explained to the teachers how they had earned growth, fixed, or missed opportunity ratings. They also made suggestions to the teachers on how they could move solidly to the growth side of the framework. No data were collected on the specific feedback the leaders gave to the teachers.

Dr. Flecha, who led the other moderate norm prevalence change school, also provided schoolwide coaching for teachers. The coaching was not explicitly focused on the norms from the growth and fixed mindset framework, but was focused on building an engaging classroom climate and on improving pedagogical effectiveness as defined by the LAUSD Teaching & Learning Framework. Dr. Flecha's school benefited from the same outside organization

providing teacher coaching as did Dr. Cixous' school. Because of this outside coaching, Dr. Flecha's teachers did not have to rely on their principal to get intensive feedback beyond their regular evaluations. This organization's coach gave each teacher support at least twice by the end of the study period. The teachers in the focus group highlighted the importance of the coaching they received on developing a positive classroom culture and explained that it was strongly related to building growth mindset norms.

In summary, leaders and teachers identified training and coaching as critical in the three schools that achieved positive norm change. In particular, providing intervention coaching as a support was significant for Dr. Cixous. In addition to these key implementation drivers being present where positive norm change occurred, the same key drivers were absent at those schools that had no norm prevalence change.

> Research question 3: According to principals and teachers, what were the least effective actions (barriers) when building schoolwide norms of growth mindsets?

Finding 3

The absence of training and coaching were barriers for principals whose schools achieved no norm prevalence change. At each of the four schools with no norm prevalence change, leaders and teachers reported that no intentional activities were offered on campus to provide the staff with explicit training or coaching on the growth mindset norms. However, each principal at some point in the three collaboration sessions did report his or her intention to use the data from the classroom visits to share results of any growth and/or fixed mindset norms present with the teachers. In final interviews, all four principals recounted how they wanted to conduct professional development with at least the reading of some mindset related literature, but were not able to get to it.

Throughout the five-month study period, the four principals indicated they were going to roll out plans, such as having their instructional cabinets or leadership teams look at the norms, and that they would devise a plan as a leadership body. Another also planned to visit classrooms regularly and indicated that she would give teachers feedback on the norms. Yet, at these four sites, teachers confirmed that no training or coaching had occurred during the study period on the framework. At all four schools, teachers explained in focus groups that they would be surprised if any norms had changed over the study period at their schools, given their lack of focus on it. Students in focus groups also confirmed that they had never heard of having growth or fixed mindsets. Across the four schools, teachers and students also shared in focus groups when asked about school culture improvements that nothing had improved within their school cultures since the beginning of the school year. The final member check of the findings in this study also fully confirmed that the lack of training and coaching served as a chief barrier.

During their final interviews, principals of the four no norm prevalence change sites expressed regret and offered many reasons explaining why they did not get around to providing any training or coaching for their teachers. For example, Dr. Giroux stated when asked what he felt was effective in his actions to build the norms this year,

> We haven't done anything. I wish—my biggest regret, lots of ideas going into this [study], one of the more important things I could have done this year didn't happen. This is more important than anything else—growth mindsets. It is what I would most have wanted to make a priority. I will make it a priority for the fall. Training. Making it a focus. It's a mindset, not a skill or tool.

He lamented being held up by an onslaught of daily operational issues that he was responsible for on campus. Being an instructional leader fell hopelessly far down his priority list, despite his best intentions at the start of each day.

All four principals whose schools had no notable positive norm prevalence change shared how the study period primarily served as their personal professional development, despite their desires to implement growth mindset norms into their school cultures at the outset. Mr. Eagelton noted,

> I had a personal barrier—not being very familiar with the research. I shared [with the principal cohort] I'd get ahold of the book [*Mindsets* by Dweck], when we met for the first time. Some of the bullets in the growth mindset norms are ideas that most people would agree with, but, not necessary ideas that are playing out yet at the school sites. The research for me is new. I planned to have a PD—or said there would be PD.

Ultimately, like the other three principals, Mr. Eagelton became mired in the work of a tumultuous budgeting year, serving in the role as the only administrator at his school qualified to evaluate staff and deal with the day-to-day surprises of being a school leader. Each of the four leaders shared that they felt held back, despite their plans of providing training and coaching for all of their teachers during the study period.

Finding 4

Shared decision-making was viewed as a speed barrier for the principals whose schools achieved no norm prevalence change. Organizational drivers are those that organize people and resources to support the implementation activities. As previously discussed, the organizational driver consists of several elements, including maintaining a facilitative administration, which is defined as a leadership structure that supports the overall implementation process and keeps staff organized and focused, while removing any inhibitors to implementation fidelity (Blase et al., 2012). All four principals leading traditional LAUSD governance model schools (Dr. Dabashi, Mr. Eagelton, Dr. Flecha, and Dr. Giroux) with shared decision-making councils agreed that rolling out new initiatives takes time and planning. Getting consensus and approval from teacher-leaders must happen before a principal can take action. Dr.

Flecha, the only traditional governance model school leader to achieve some positive norm prevalence change, got her Instruction Leadership Council (ILC) to put the growth and fixed mindset norm framework on the agenda, three months into the study. She recounted how if she had not had to wait for the meeting, she likely could have achieved a great deal more positive norm change sooner. Three of the four who achieved no norm prevalence change, like Dr. Flecha, were from the noncharter schools in the study.

Mr. Eagelton alluded to the same barrier when he said, "I took the challenge, having joined the project…The next ILC (Instructional Leadership Council) was not until March, the agenda was already so packed." He explained that he was unable to begin the process of building growth mindset norms at his school until his ILC decision-making body could grant approval.

The four LAUSD traditional governance model principals each acknowledged having the legal power to roll out instructional and cultural plans with sole decision-making powers if they chose to act independently of a council. However, as one leader explained, there was often a misunderstanding about whether the principal was mandated under any collective bargaining or No Child Left Behind (for Title I schools) to get approval from their instructional leadership council (ILC) or instructional leadership team (ILT) for such decisions. They indicated it was good practice to get approval from the shared decision-making bodies first if the leader wanted a new instructional or cultural practice to be adopted at the school. However, leaders recognized that these bodies truly only required decision-making power over the use of resources related to any district, state, or federal policies.

Dr. Dabashi, in particular, shared that he felt there was a misconception about the kind of power the leadership body held over the principal at his school. For him, this misconception was

the reason he could not initiate any implementation activities until his ILT had given him its full support. He explained how the principal could choose to push the implementation of a practice at his and other traditional LAUSD governance model schools without engaging any decision-making bodies; however, if he had done so, he suggested the body would likely have impeded progress. Teachers would have felt trust had been broken and that their power had been usurped. He stated that if he wanted his staff to adopt the norms by simply providing them with training, performance assessment, and coaching, they would not get any traction. In considering how he could hold teachers accountable for adhering to the norms once rolled out without his ILT's approval, such as by writing up observation memos, he stated,

> [If I don't build buy-in,] the union will throw it out. I'll get conference memos. I can't even enforce hall passes. I'd have to spend all my time writing up "unsats" on Stulls and backing them up—and if I did give "unsat acts," people will still be here [anyway].

Although this finding illuminated other leadership challenges present at this school, he shared this thinking as the reasoning for why he needed to wait for ILT approval. Given the timing of the study, he shared that the agendas were impenetrable, disallowing this initial step needed in the culture of decision-making at his school.

As Dr. Dabashi described, this barrier was compounded by infrequent meeting schedules and lengthy agendas. The decision-making bodies were slow to get anything new on the agendas mid-year, because they met once a month or every other month, often only for one hour. If a leader were able to get building norms on the agenda, as was the case for Dr. Flecha, the initiative would likely have received little attention due to the long queue of other items needing to be addressed. The issues that leaders recounted taking precedence over culture building included testing schedules, budgeting of the next year's instructional staff, position shifts due to reduction in force (RIF) threats, and for some, discipline issues.

Mrs. Arendt, whose charter school also achieved no norm prevalence change, was unable to bring the norm-building initiative to her instructional leadership body as well. They had been planning the implementation of a new system that was consuming their meeting schedules, despite the group's awareness of her interest in building the norms. The leadership team at Mrs. Arendt's school did not even attempt to bring the building of growth mindset norms to their leadership body, given their focus over the last half of the school year on how they were going to roll out "standards-based grading" in the coming school year. Although at its core this practice has characteristics of growth mindset norms, because the leaders declined to act outside of the body to introduce the framework, the school culture norms present at Mrs. Arendt's school remained relatively inert and primarily fixed. Mrs. Arendt did not indicate that her leadership body perceived any power over leadership decision-making, but explained that it was good practice at her school to engage them in decision-making as well.

As shown, shared decision-making at schools in this study held up building the norms during the study period. Because the facilitative administration practices needed to rapidly support implementation and remove obstacles were not in place, four schools had no norm prevalence change. As a result, these same four schools were unable to provide their teachers with the needed training and coaching on building growth mindset norms schoolwide.

Conclusion

This study employed an advocacy approach, with critical, participatory action research to document the actions taken by principals in high-minority, low-income schools who were undertaking the task of building growth mindset norm-oriented school cultures. The methodology provided principals with three collaboration sessions to reflect, learn, and plan for action at their sites. The findings detailed a list of strategies leaders could execute to confront

threats to learning and performance when building growth mindset norms that worked for leaders in this study. Additionally, implementation drivers necessary to implement the norms were present for those schools with positive change; barriers were discovered for those schools that showed no change. The findings comprised perceived best practices for leading change at school sites. This process has the potential to empower other leaders who are planning to confront similar threats for their students when building growth mindset norms into their school cultures.

The knowledge captured through the actions and perceptions over the study period have practical applications for leaders who are considering building intentional school culture norms to bring about academic motivation through a growth mindset orientation. The implications that resulted from the findings are discussed in the next chapter; the findings not only highlight suggested best practices, but also provide insights to further illuminate the power of potential barriers leaders may face.

Chapter 5

Since the publishing of *Mindset* (Dweck, 2007), leaders have sought appropriate applications of the theory for their schools. A growth mindset indicates a belief that intelligence is malleable and not static. However, until now, school leaders have lacked guidance on using the research. This study details the experience of leaders of high-minority, low-income schools who sought to change the norms of their school culture by building a growth orientation.

Successful norm change does not require a born superstar leader. On the contrary, in this study, I found structures that facilitated implementation of norm change. The findings also highlighted missing structures that hindered implementation. A diverse set of strategies to implement the framework was discovered. Additionally, the most successful leader exhibited transformative behaviors, such as nimble decision-making. Finally, the absence of professional development and coaching impeded implementation. Therefore, providing high quality professional development and coaching supported culture norm change.

Thus far, school leaders have been ill-equipped to encourage growth mindsets through initiatives intended to reform school culture norms. In this chapter, I present tools to build a growth mindset culture across staff, students, and families learned from leaders in this study. I present recommendations for action-oriented leaders, followed by a discussion of the limitations of the study. I conclude with opportunities for future research and policy and a reflection on insights gleaned from my participatory experience.

Why Adopt and Implement Growth Mindset Norms?

The mission of each school in this study was to help students attend and succeed in college. Additionally, each school set rigorous student achievement goals. Yet, baseline data revealed a *norm gap* at each school. A norm gap occurs when behaviors needed to connect the

school's mission to outcomes are absent. The schools measured at the outset of this study were not likely to reach their goal of getting all students to college. According to the findings from all seven participating schools, the lived norms at the start of the study, as demonstrated by adult behaviors, showed many of the 11 fixed norms pervaded their cultures. During the study period, the norm gap persisted at four of seven schools. Two schools partially demonstrated growth mindset norms, and only one showed evidence of many growth mindset norms.

Dr. Dabashi's school serves as an example. Dr. Dabashi's mission and vision focused on encouraging academic excellence by "…providing a rigorous curriculum, best educational practices, and extracurricular enrichment activities for all students." In addition, Dr. Dabashi's school had plans to integrate technology throughout the curriculum and to train, prepare, and support teachers' assessment and reform efforts. The vision of the school was for students to successfully transition through college, career, and other life experiences. Despite these lofty goals, instructional practices revealed a culture of mostly fixed mindset norms. Over the study period, Dr. Dabashi did not provide staff with professional development and coaching. As a result, his culture became more fixed over time. The continued fixed mindset at his school was likely one of the factors producing proficiency rates at the bottom of the district high school ranks.

Evidence of this norm gap at Dr. Dabashi's school was similar to evidence found at most of the other schools. As Dr. Dabashi experienced, other schools that did not achieve success in this study failed to adequately raise achievement, and this outcome may be due to the lack of growth mindset norms. When framing growth mindset indicators as norms in a school, educators can confront learning threats in the culture such as fixed mindsets, stereotype threats, the Pygmalion effect, and negative school culture norms. Therefore, leaders at high-minority, low-

income schools must be experts at intentionally building school cultures to confront these learning threats. The following recommendations are guides to action for both expert and emerging school leaders.

Recommendations for Leaders Implementing Growth Mindset Norms

In this section, I use the three categories of social science implementation drivers—organization, competency, and leadership (Blase et al., 2012)—to present the strategies that emerged from this study. The organization driver includes elements such as administrative support, data systems that support decision-making, and systems intervention (Fixsen, 2005). Systems intervention means there is a leadership team facilitating implementation, using data to inform their decisions, and intervening as necessary (Fixsen, 2005). The competency driver involves recruitment and selection of staff, as well as focused training and coaching (Fixsen, 2005). At the intersection of organization and competency is the leadership driver needed to assess the performance of staff on implementing the program. The leadership driver encompasses technical knowledge, such as the core components of the program, and adaptive behaviors, such as creative problem-solving (Fixsen, 2005). Each recommendation reflects these implementation drivers. Each recommendation should fit into a multi-year plan. Additionally, each recommended action must work with other implementation efforts to reduce fixed mindset norms.

Recommendation 1

Build a leadership team to design and implement the plan. The first recommended step for any leader seeking to embed growth mindset norms is to build an implementation leadership team. A single leader cannot successfully do the work of norm change in isolation. This team would facilitate implementation with data-driven decision-making, staff organization,

procedures, structures, culture, and climate (Fixsen, 2005). This approach contrasts with *top-down* or *absent* leadership approaches. A top-down leader tells staff what to do and holds them accountable. An absent leader sets the plan, expects it to be implemented by others, and does not assess progress formatively. An effective team would facilitate implementation by regularly collecting such formative data such as staff adherence to the norms. Team members would regularly visit classroom to assess staff implementation progress. The team ensures that the plan continuously evolves, by using the data to inform its next steps.

In this study, all leaders had leadership teams. However, the three most successful leaders—for example, Dr. Cixous—had the leadership team function as an implementation team. The team members focused on norm change and used their time to both facilitate implementation and to remove barriers. In contrast, the unsuccessful leaders did not. Their leadership teams were not engaged in creating an actionable norm change plan designed to overcome likely barriers.

When building the team, the school principal should adhere to best practices in recruitment and selection of staff (Fixsen, 2005). Staff interest in joining the team will not suffice as the only selection criterion. The principal can select participants based on criteria important to fulfilling the plan, such as having trust from staff and being a strong professional developer and coach. Team members need trusting and influential relationships with staff. If they have negative relationships with any staff, conflicts could adversely ripple throughout execution of the plan. Staff members benefit from viewing members of the team as instructional leaders deserving of respect for their expertise in educating students. Therefore, the team needs to include teacher-leaders, not just administrators. Teacher-leaders are classroom-based teachers who are strong peer coaches, who are models of instructional excellence, and who periodically

lead professional development. Team members can employ effective andragogy methods to fulfill the best practices activities recommended in Fixsen's (2005) training and coaching, which are elements of building competency (discussed later). Andragogy uses research-based strategies to teach adults (Knowles et al., 2011). For all implementation activities, it is important to define the term *staff*. Staff refers to everyone working at the school when students are present. Therefore, staff includes but is not limited to security personnel, cafeteria workers, office and health personnel, maintenance workers, all types of aides, and all administrators and instructors. All staff can be included to ensure every adult who interacts with students and parents is proficient in building a flourishing growth-oriented culture. For example, to save time, cafeteria workers may do all the work of serving primary-level students. However, if workers adopted a growth mindset norm in their area of the school, they would begin reinforcing students' self-sufficiency skills, encouraging students to serve themselves over time. Reducing or eradicating fixed mindset messages sent to students by adults, whether it occurs knowingly or from unintentional habit, would encourage a growth mindset.

The team can begin their work of creating a plan by using baseline data detailing the degree to which each norm is present. I further describe the data system in Recommendation 2. As demonstrated in this study, observation data from every classroom and common area can help assess culture. Once the data are collected, the implementation team can analyze a dashboard report. For an example of a dashboard report, see Appendix H.

Leaders must be cautioned against creating a plan for implementing all 11 norms at once. Using the baseline data analysis, the team can create a transparent plan detailing a long-term path toward success. For example, Dr. Flecha's team identified value in ensuring that the full staff understood the sequence of norm implementation from start to finish. The final plan, if different

from the plan suggested in this chapter, at minimum should include what is found conceptually in all five recommendations. The absence of any driver could result in creating or maintaining barriers to school culture evolution, a situation experienced by four unsuccessful leaders in this study.

Recommendation 2

Build a formative data system to monitor implementation of the plan and to inform decision-making. A successful implementation plan must allow for the removal of *implementation bumps*. An implementation bump is a challenge encountered during implementation that is surmountable with intentional action. When left unaddressed, a bump will grow into what can be termed an *implementation barrier* that halts the plan. For instance, when a vocal teacher is not given the right type of support (for example, coaching and model lessons) when presenting a norm to struggling students, the teacher will likely conclude that implementing growth mindset norms is impossible. A struggling teacher will then express his or her frustration by negatively influencing staff perceptions on the value of implementing the overall plan. However, providing the teacher with the needed coaching and appropriate models will likely ensure the implementation bump is overcome, leading the teacher to report success to other staff. Therefore, a barrier is a challenge large enough to hinder or even halt implementation progress altogether.

The plan for implementation must be crafted in a manner that ensures no barriers are created. Leaders can then guard against the development of an *implementation gap*. An implementation gap occurs when a barrier is allowed to stand, such as staff not yet understanding how to celebrate students' growth as much as or more than celebrating their top achievement. A misalignment between expected and actual results produces a gap. For example, when a

struggling teacher tells staff that he or she could not implement the norm of celebrating student personal growth in his or her classroom, other staff may avoid trying it as well. Data collected to check implementation progress in the school can be used to reveal gaps between the school's planned norm change and the actual amount of norm change achieved.

Even after a training session, staff can experience difficulty implementing growth mindset norms accurately. Fortunately, since the norms used in this study are instructional in nature, implementation bumps can be highly visible to observers. When practitioners have not yet begun exhibiting the core components of positive norms described in training, such as giving ample wait time for student thinking, an astute observer can identify the bump rapidly.

Dr. Cixous, the most successful leader in this study, conducted formative classroom visits after her first training session. The four unsuccessful leaders did not. The classroom visits revealed several new teachers who were attempting to implement the norms incorrectly. For example, one teacher wrote rigorous objectives that all students were expected to achieve; however, her instruction lacked scaffolding. If systematic data collection comes soon after training, leaders can respond effectively. For example, analysis of the data can reveal when practitioners are not attempting the new practice, when more skills need to be reinforced, or when motivation is lacking. Therefore, data-driven decisions can target staff performance to catch implementation bumps before the bumps become barriers.

In the same manner as the walkthroughs were conducted in this study, the team needs to conduct walkthrough observations after the first cycle of professional development. Training and coaching are part of competency building (Fixsen, 2005). The three successful leaders in my study found observations important in determining the effectiveness of training efforts. In addition, the leaders were able to use the data to guide follow-up support. One leader noted after

her first site-wide observation that she would never make assumptions again about what staff learned in training until she had physically witnessed progress. Additionally, she reflected that collecting baseline data before training and coaching teachers on the norms in this study was essential. Dr. Flecha stated,

> I thought for the most part my teachers were growth oriented in their actions before we started. By having me walk my campus to apply the framework, I have been forced to reconcile that all these teachers I hired, who are working so hard, are actually more fixed in their behaviors and I didn't even realize it!

This realization stemmed from assuming her staff was mostly growth-oriented in their practices, when in fact the opposite was revealed when she visited classrooms. By immediately calculating and presenting results for the leadership team to analyze, leaders can make data-driven decisions on improving implementation. During analysis, the team can ask questions such as:

1. What surprises are there in the data?
2. Are we reaching our goals for the focus norms?
3. Based on these data, what are our next steps?

This type of data-related dialogue can also be held with the entire staff during professional development, as with Dr. Cixous's school. Dr. Cixous strategized with her staff on organizational drivers from the implementation model (Fixsen, 2005). Dr. Cixous then provided personalized support for struggling staff. By ensuring the leadership team understands their implementation tasks, and by using data to drive decision-making through examining staff performance data, leaders can intervene and overcome implementation bumps.

As with several schools in my study, when data are not used to intervene, implementation bumps grow into barriers. At the start of the study, data from every school showed that staff functioned in mostly fixed mindset forms. The four unsuccessful schools during the study period did not integrate training and coaching to address negative adult behaviors.

Use of the data system should be extended beyond enacting appropriate interventions; it should also be used to celebrate progress, as demonstrated by Dr. Cixous. Data at her school revealed a focus norm—providing an academic challenge for all—was classified as highly prevalent soon after training. Successfully embedding the norm into the culture was a cause for celebration. In the celebration, discussing how a staff member achieved the growth, as well as how to perpetuate the gains, solidified the new normative behavior.

Recommendation 3

The implementation plan must provide high-quality professional development around the norms, including training and coaching, allowing for personalized interventions. Data in this study revealed that a comprehensive approach to building staff capacity is required for school staff to adopt new behaviors to promote growth mindset norms. Promoting competency builders, such as training and coaching, as central parts of the plan may be the most obvious recommendation for leaders. Dr. Cixous and the two moderate norm-achieving principals provided some form of development for staff and had coaching for their teachers. In contrast, the four unsuccessful leaders in this study did not execute similar competency-building structures.

Teachers and leaders in final interviews and focus groups recommended that schools build a yearlong professional development sequence with ample time for training. Once time is allotted for training, the leadership team is responsible for introducing the science behind mindset research, describing the threats to learning, and providing a sequence for training on each norm. Dr. Cixous learned the importance of offering a flexible choice of which norms would be trained and when. She modified interventions without derailing the entire professional development sequence. Dr. Cixious' experience shows that when the majority of staff is ready to

implement the next norm, struggling staff will need access to support outside of the training session.

While some teachers may be ready to adopt all 11 norms at once, more likely the full staff will benefit from a more thoughtful strategic plan. Dr. Cixous chose to have her staff explore the entire framework while reading *Entertaining an Elephant* by William McBride (1997). In the novel, a burned-out teacher evolved to have a renewed passion for his work. Dr. Cixous's staff applied the framework to each stage of the book, noting where the main character was fixed in his teaching and thinking. Her staff also explored his metamorphosis, in which he began to exhibit a growth orientation in his thinking and behavior. Following this experience, staff looked at their baseline data on the presence of each norm at the school and agreed to focus on a subset to adopt throughout the rest of the year.

Because of this process, staff members were invested in looking at their data to confront the fixed norms in their school culture and in their own teaching. Additionally, a vision was set on a manageable number of norms (four) that staff wanted to implement. It is important to note that every school culture is unique, as is the capacity of each staff. While Dr. Cixous's staff agreed to focus on four norms, in reality six norms increased, earning classification in the highly prevalent category. According to Dr. Cixous, exceeding their norm change goal occurred because staff members with the capacity to do so went beyond minimum expectations.

Dr. Cixous' staff suggested a sequence in professional development that includes modeling the norm in both growth and fixed mindset situations. This can be followed by intense practice, which provides time to act out the norm safely, solidifying it into teacher repertoires. Teachers need to be granted the time to "practice perfect" in this approach. Practicing an approach perfectly in training is ideal, rather than leaving professional development having only

seen, heard, or read about a pedagogical skill. Without practicing an approach correctly outside of the live classroom, staff members are left to deploy it awkwardly for the first time with students. As many leaders saw in this study, teachers will apply the new approach with students incorrectly and may believe they performed as expected. Practicing the approach imperfectly makes bad habits permanent. Therefore, teachers need to be given ample space to practice the norm correctly in training, with opportunities in this safe setting to reflect on their application.

Dr. Cixous regularly showed a professional development video produced at her school. The video provided visual examples of the instructional quality she expected. Based on her experience, I also suggest using videos of teachers modeling norms as a tool for proving that the practices work for students. This approach removes many excuses made by staff resistant to implementation. It is also a celebration tool to show examples of how the culture has shifted.

A strategy for anchoring the learning in training is to have staff commit to implementing the norms from the session, as well as through personal goal setting, as did Dr. Cixous. Staff members leave the training with a focus on using their own daily reflection to ensure the norms live in their daily repertoire. An added benefit is using the norm implementation goal as a dialogue tool for any coaching they might be receiving.

In this study, I found that providing the competency driver of coaching was essential for ensuring that training did not result in teachers either failing to apply a learned norm or repeatedly applying it incorrectly. Coaching has long been identified as an essential element of success for overcoming implementation bumps when teachers attempt to apply skills learned in professional development (Joyce & Showers, 1981). Teachers who lack coaching can perpetuate practices that solidify into barriers, ultimately stalling implementation throughout the culture.

For example, leaders who conducted professional development on the norms in this study but did not provide coaching had cultures that remained largely fixed over the study period.

Coaching was a key determinant of success for Dr. Cixous's culture; it was also an important factor for Dr. Bordo and Dr. Flecha, who both achieved lower but noteworthy growth. Implementation team members at all three sites served as coaches to staff in some capacity. Therefore, it is recommended that full lesson observations and debriefings be provided for each teacher to ensure any bumps invisible to teachers are quickly revealed. The coach can lead each teacher through a reflective lesson debriefing. Although coaches may be inclined to leave a note or send an email, leaders do not advocate this method of debriefing. By ensuring each teacher gets formative and reflective feedback soon after training, schoolwide mastery of the norm is highly likely.

The coaching conversations held at all three successful sites were of the facilitative or reflective style, where the coachee did the majority of the talking. Teachers reported a preference for this type of support over a directive style, in which the coach tells the teacher how the lesson went and what to do next. Training in cognitive coaching (Costa & Garmston, 2002) had occurred at some point for coaches and leaders at many of the schools in this study, which is a useful way to unite staff around being facilitative. A coach who is directive when it is unnecessary reduces a teacher's motivation and likelihood of using any feedback to improve practice (Costa & Garmston, 2002).

It is essential for the team to adopt a shared framework for coaching conversations to promote consistency in effective practices. Such an adoption will ensure that training is applied in classrooms and that coaching yields teacher growth. If coaching methods and skills in the school are disjointed, the team could create a barrier by holding lesson debriefings that

demotivate staff, as was the case for the four unsuccessful schools in this study. These four schools provided evaluative conversations rather than reflective coaching. Considerable attention must be paid to training leaders as well. Coaches in the system are strong candidates for membership on the implementation leadership team. The next recommendation expands on the leadership practices the implementation plan will require of leaders, beyond coaching.

Recommendation 4

Build principals' technical and adaptive leadership skills. Two leadership skills—technical and adaptive—are important to implementation (Fixsen, 2005). Technical leadership refers to understanding the key elements of the growth and fixed mindset norms framework, such as how to observe the presence of each norm in classrooms. Technical leadership requires in-depth training on such core components as the threats to learning, research-based interventions, and the implementation drivers.

Adaptive leadership is required when problems and needed solutions are not well known or have not been experienced before, as exemplified by a situation encountered in this study in which three leaders were not able to gain consensus on a plan for implementation due to a shared-decision making model. When similar unique situations arise, employing adaptive leadership requires a deeper level of decision-making (Blase et al., 2012). For instance, Dr. Bordo did not wait for a scheduled leadership team meeting; she called for an emergency meeting to ensure the outcome was a plan for immediate implementation.

In this study, every leader received technical training on the threats to learning and suggestions on how to implement the growth and fixed mindset framework (see Appendix F). The principals were empowered through the training to create strategies (in other words, to be adaptive) for implementing the framework at their school sites. For example, Dr. Cixous used a

staff book study of a fixed mindset teacher who became more growth-oriented to motivate teachers on implementing the framework. Leaders took time in our reflection, learning, and planning sessions to share similar strategies they had designed or to report on strategies they had chosen from the list I gave them in a previous training (see Appendix F). Although the technical learning was an essential first step for implementation, the findings in this study indicate that technical learning did not differentiate between the various levels of impact leaders achieved, because it was held constant. However, Dr. Cixous, the most successful leader in the study, did exhibit adaptive leadership like Dr. Bordo's.

Dr. Cixous's teachers reported that she modeled the norms throughout her school building. She did not isolate her leadership to data collection, training, coaching, and intervention. Teachers throughout the school observed her unplanned modeling in various commonplace situations. Teachers reported how witnessing a live model influenced their use of the norms and reinforced the seriousness of Dr. Cixous's expectations. Additionally, Dr. Cixous was adaptive when data revealed a small subset of new teachers in need of support. Instead of adhering to a single training and coaching program, she targeted specific teachers in need of personalized interventions.

The first four recommendations all point to the role of a leadership team, training, coaching, leadership skills, performance assessment, use of data, and interventions within the school. The next recommendation focuses on how leaders can extend their school culture reform efforts beyond building teacher capacity.

Recommendation 5

Empower students and families with training and support on the school and home versions of the growth and fixed mindset framework. The first four recommendations on

how to embed the growth mindset norms into a school's culture are sufficient for a successful two- to four-year implementation. However, many leaders will see opportunities to increase effectiveness and innovate. There are two final pieces I suggest for leaders to go beyond the basic strategies, which have thus far been isolated to school staff. Although no leaders came anywhere near this stage of implementation, participants in the final teacher focus groups and principal interviews suggested the inclusion of students in the implementation of the framework. To ensure students gain a high locus of control, they too must learn about the growth and fixed mindset norms. Relatively simple interventions with students develop or solidify a student's growth orientation (Yeager & Walton, 2011). In fact, much of the literature about growth mindsets focuses on the relative ease in changing student and adult mindsets. Therefore, empowering students to understand the intentional norm shifts by staff at their school is a logical activity for all grade levels.

Teachers and students interviewed in focus groups at the end of this study often pointed to the many likely benefits of empowering students. For example, students will better support cultural shifts experienced by staff when they are motivated to understand what is happening at their school. Additionally, students will begin to sustain the culture by expecting the norms, holding staff accountable for the way their school is functioning. Finally, students will sustain the norms by upholding them between each other. Well-designed lessons and classroom cultures include students collaborating, mentoring, tutoring, leading, and even managing each other's behavior. The culture a leader seeks to build with staff is more likely to be sustainable and innovative when students are treated as partners in the implementation activities. All participants in this study recognized that student empowerment had not yet manifested at their schools.

A rich school culture rarely exists without effective engagement of families. With the recent draft of a national Family Engagement Capacity Building Framework (Mapp, 2012) by the United States Department of Education, standards could soon be in place to guide schools away from ineffective practices. An effective system for engaging families empowers and collaborates with them as partners. Such a system includes teaching families how to look at their children's formative and summative progress data. It supports parents in learning about the full curriculum their children will experience each year. The system teaches families tips and strategies for supporting children at home and facilitates family goal setting. If school leaders seek sustainability and innovation in their implementation of growth mindset norms, collaborating with parents is a logical necessity and aligned with the proposed national framework.

The home version of the growth and fixed mindset norms framework was created to build a growth orientation in the home environment (see Appendix E). Although Mrs. Arendt and Mrs. Bordo at least shared the framework with small parent groups, none truly utilized the potential power of this tool. I shared the framework with the teacher focus groups at each school. Across sites, teachers agreed that training and supporting families to align with the school implementation would be a valuable supplement. In an ideal implementation of the full framework at a school, the home version would be used to empower families, supported by an implementation plan similar to the staff plan. An implementation team needs to be formed to develop a plan, with careful attention paid to selection of the members. The home plan for families would include training, coaching, and organizational structures for implementation performance assessment. A decision-support data system can be used to inform the need for intervention or celebrations.

Benefits of implementing the home version of the growth and fixed mindset framework with families at schools are likely numerous. Focus groups with teachers and interviews with leaders indicated several areas that could benefit from such an implementation. Students spend a great deal of their time with family members. Acculturating a growth orientation of behaviors and messages in the homes of students to complement the school culture would likely accelerate the impact of growth mindset norms on student learning. By having parents adopt the norms, they too would be empowered with knowledge of the school's expectations for the new culture. Parents would share in holding the school accountable, bolstering sustainability in the later stages of implementation. Finally, training and supporting families in building the norms at home would result in a positive and collaborative experience. The impact of implementing such a program at a school that previously did not effectively engage and collaborate with parents could be immeasurable. The process could endear families to the school through a shared experience involving what is most important to families: the success of their children.

Often schools with struggling cultures lament the lack of parental involvement. In struggling schools, conversations can be overheard about parents missing Parent-Teacher Association (PTA) meetings, fundraisers, and parent-teacher conferences. In fact, conversations may include claims that the lack of parent involvement is the biggest issue holding back student success. Whether that is true or not, when a school brings families in to learn strategies for helping their children at home through rich training experiences applicable to their daily lives as parents, a new culture of engagement evolves.

Study Limitations

This study had several limitations. First, the growth and fixed mindset framework was built from seminal studies showing that building a growth mindset improves academic outcomes

for students. The specific norms written for this study have not yet been tested for individual or schoolwide impact. While the framework was constructed to translate growth or fixed mindset indicators into actions observable in school and home, there has yet to be a study on whether the norms themselves are linked to student achievement. In addition, no research yet exists linking the impact of embedding the norms across a school to improved schoolwide outcomes.

Second, the findings in this study only involved implementing the norms in low-income, high-minority schools, in a single large urban school district. Although a case can be made for the idea that the growth and fixed mindset norms framework applies to all schools and students, for this study I reviewed strategies, drivers, and barriers in a narrow setting.

Finally, the length of time for this study was brief, roughly half of a school year. A deeper understanding of what leaders experience will likely require a longer study period. The study length limitation is of particular importance given that implementation research indicated that later stages of implementation are reached between two and four years (Blase et al., 2012).

Opportunities for Future Research

Each limitation of the study described in this chapter presented a key opportunity for next steps. The next study or series of studies can include isolating the impact of the growth and fixed mindset norms on student achievement. The study period needs to range from two to four years and encompass a broad pool of demographics. The study can also be replicated with different populations. Once the framework has been tested for effect on students and overall school outcomes, another examination of the strategies, drivers, and barriers to implementation can be conducted over two to four years.

Finally, studying impact and implementation experiences could be extended to childcare, pre-school, adult education, online courses, online schools, and higher education, as well as in

the home environment. Each of these contexts is an essential developmental stage requiring intentional culture building to challenge learning threats that low-income, minority students experience on their path toward college, career, and life success.

Policy Implications

The current administration of the United States Department of Education (DOE) under President Obama has yet to successfully reauthorize the Elementary and Secondary Education Act (ESEA). The most recent reauthorization of 2001 remains active (No Child Left Behind; NCLB), and Congress has not voted on a draft reauthorization blueprint from the Obama Administration. As a result, there have been three major alternative methods for setting policy. First, the DOE has offered states NCLB waivers if the states comply with the administration's priorities. In addition, large grants for states (SEAs), districts (LEAs), and schools have been offered for adopting similar policies. Finally, national frameworks, such as the Family Engagement Capacity Building Framework discussed in Recommendation 4, have been distributed to states, districts, and schools to offer guidance.

The policy-setting tools listed here, which are not law, focus primarily on linking teacher effectiveness to student performance, improving teacher evaluations through multiple measures, promoting incentive pay, adopting school reform models, personalizing instruction, and increasing learning time for students and adults. In the most recent grant applications designed to encourage SEAs, LEAs, and schools to adopt these policies, a plan is required for implementation and sustainability of the initiatives. However, focusing on school culture and belief systems has not yet been a priority. Safe and Supportive Schools (S3) grants are close to what is needed, but are only reserved for the most dysfunctional schools in a state. Schools have a hierarchy of needs when facing improvement. If culture and beliefs are overlooked in the

installation of reforms such as the above, schools in reform will continue to yield mediocre results.

If SEAs and LEAs continue to be motivated by grants to adopt policies, the DOE must ensure school culture is a primary component. Without careful attention to building a healthy culture, initiatives can be installed structurally, while student achievement outcomes fall short. Without changing organizational norms, adult behaviors will essentially remain the same or, as seen in this study, worsen. Selection models for leadership and teaching positions need to include an assessment of belief systems. Building healthy school cultures must become a key focus for all schools that fall short of fulfilling promises to students. Until these recommendations are made a priority in policy and practice, billions of dollars focused on school improvement will continue to yield results as unacceptable as what we see today.

Reflection

Over my 16-year career as a teacher, principal, and reformer, I have visited hundreds of schools. Although the majority of my visits have caused me deep angst and extreme disappointment over the conditions within which low-income and minority students are expected to learn, a few experiences enlightened me early on and continue to illuminate what is possible for all students. Since founding, teaching at, and leading a school that overwhelmingly beat the odds, I now work to support leaders in their need for similar enlightenment. I have witnessed disturbing and irresponsible explanations for the underperformance of low-income and minority students in schools, yet increasing numbers of schools are achieving successful outcomes. Principals leading these schools of excellence refuse to participate in the hegemony others unknowingly protect.

Hegemony in our schools inspired me to develop more concrete guidance for leaders committed to changing student outcomes at their schools. What resulted from this inspiration was a roadmap for intentionally removing learning impediments for students by methodically embedding growth-oriented norms into school cultures. While the seminal research on growth mindsets has motivated many leaders and teachers to find applications in their school environments, to date the knowledge has not yet been used to empower leaders on how to implement the growth mindset approach beyond individual deployment models focused on changing student mindsets. This approach hinders schools in need of reform, given that students may adopt a growth mindset after an intervention but must still operate in an environment at school and home created by adults who unknowingly encourage fixed behaviors. Student experiences with fixed mindset-carrying adults are a barrier to retaining the growth orientation long term.

By constructing the growth and fixed mindset framework, my intention was to concretize the research into several schoolwide observable behaviors. After implementing these behaviors, leaders can assess the norms in their school culture, as well as train and coach on them. Because no manual exists for installing growth-oriented norms while removing unwanted fixed norms, studying the drivers and barriers as perceived by a group of school leaders was the most useful knowledge I could contribute, beyond simply designing the framework.

At the outset of the study, bringing the seven leaders together to collaborate on innovative ways they might implement the framework was extremely exciting. That excitement turned to disappointment by the second of three sessions when it became apparent the majority, while excited about the possibilities of the framework, did not operate as if they had much control over their cultures. Instead, many seemed to be bystanders and even functioned at times

as exhausted victims. This was not the case for all leaders. Gradually, my disappointment as a participatory researcher was tempered by focusing on the learning that came observing from the stark contrast with those exhibiting a higher locus of control.

Two key concepts I gleaned from conducting this study are essential for educational leaders to understand. The first concept, already briefly discussed, involves determining the existence of a *norm gap* between an organization's mission/vision and the intended goals/outcomes. Identifying this norm gap can be transforming and empowering for a leader. If a school's mission is to ensure all students are successful in choosing their careers, including a goal of at least 85% of students making it through college graduation, but school leaders continue to have fixed mindset behaviors throughout their learning environments, a norm gap exists. Imagine a line connecting mission, vision, values, goals, and norms on the left side of the page to actual outcomes on the right side of the page. If a school's culture were aligned with its mission, then the norms present would be intentionally created and upheld to link the left side (mission/vision/values/goals) to the right (actual outcomes). When the *lived* norms of the school are inadequate for reaching the school's intended purpose, the behavioral gap can explain why the actual results are so far off target. The empowerment here for leaders is that once the gap is illuminated, they can begin targeting the eradication of negative behaviors and focus their work on filling the gap with needed behaviors, or norms.

The second insight gained from the findings is interrelated with the concept of a norm gap. School leaders, and even leaders of other organizations, who are subject to hegemonic forces, must be *enlightened* to see the gap. Enlightenment is also required for leaders to understand their ability (and responsibility) to fill the gap with the correct norms. I have met many leaders of low performing schools who blindly accept the daily business of their norm gap,

do not know it is there, and often feel powerless in changing student outcomes. Although there are others who can see the gap and know that it is unacceptable, they have yet to see a path toward filling the gap and may not believe it is possible.

In this study, leaders who had moderate to high success in confronting fixed mindset norms by building growth mindset norms behaved differently than leaders with no success. The successful leaders were not just upset about outcomes at their schools; they could see the bar to reach and knew they could act intentionally to move their schools forward. The ineffective leaders offered excuses for their inability to change their school cultures. In my work outside of this study supporting SEAs and LEAs through improvement, anecdotes confirm that leaders who have been enlightened about a gap in their culture and who know they possess the power to fill it tend to get results. Leaders of strong cultures speak differently about their expectations and about how their cultures were built and maintained. However, how the more successful leaders gained their enlightenment is a subject for future research.

My professional mission has evolved to encourage the enlightenment of leaders who take on the noble charge of improving a struggling district or school. By devising a better way on a large scale to train and coach leaders doing this work, many of our most troubling national trends can be countered. The most enlightened leaders I have had the great fortune of knowing take their responsibility to close the achievement gap a step further. Many want to create a new gap, where high-income predominantly White and Asian-populated schools are chasing after a new, yet to be built national trend, in which Black and Latino students, whether low-income or not, are attending and graduating from secondary education at the highest rates of all.

There are growing numbers of exceptional leaders proving the possible. The key to their success has been to think and behave differently, and more specifically, in the way their students

and families need them to, as relentless, focused and growth-oriented leaders stewarding cultures of excellence.

"…[R]*eal transformation requires that we redesign the room itself. Perhaps even blow up the old room. It requires that we change the thinking behind our thinking*."

—Danah Zohar

Appendices

Appendix A—School Culture Norms

(Deal & Peterson, 1990)

Positive Norms	Negative Norms
Treat people with respect.	Don't disagree with the principal.
See everyone as a potential source of valuable insights and expertise.	Don't make waves.
Be willing to take on responsibilities.	Treat women as inferior.
Try to initiate changes to improve performance.	Put your school down.
Encourage those who suggest new ideas.	Hate your work.
Be conscious of costs.	Hide new ideas and information from others.
Speak with pride about the school and your unit.	Treat colleagues poorly.
Allocate time according to the importance of the tasks.	Look busy and innovative when you're not.
Don't criticize the school in front of students or community.	Reward or recognize others on the basis of politics.
Enjoy and be enthusiastic in your work.	Laugh at criticize those who are innovative.
Be helpful and supportive of the others in the school.	Complain and criticizes your school to the outside.
Share information to make the organization better.	Complain constantly about everything.
Do what will serve the needs of students rather than what will serve personal needs only.	Distrust colleagues.
	Share information only when it benefits your own unit.
	Do what will serve personal needs first and the needs of the students later.
	Ignore areas of curriculum, instruction, and learning that are problematic; rationalize why they can't get better.

Appendix B—Research Provided to Principals on Threats to Learning and Performance

Threat to Learning and Performance	Intervention	Source
Fixed Mindsets	"In 8 sessions over 8 weeks, students took part in workshops on study skills and the function of the brain and how the brain can get stronger when a person works on challenging tasks. Students in a control group learned only study skills" (Yeager & Walton, 2011).	(Blackwell et al., 2007)
Stereotype Threat	"Students met with college student mentors twice and exchanged occasional emails throughout the school year. Mentors were taught to endorse the relevant treatment message. A control group received an antidrug message from mentors" (Yeager & Walton, 2011).	(Good et al., 2003)
Negative School Culture Norms	Build intentional positive norms and gain agreement from staff to replace negative school norms.	(Deal & Peterson, 1994)
Teacher Pygmalion Effect	Tell teachers that some students are able to learn at rigorous levels, when they may actually have recently scored average on an IQ test.	(Rosenthal & Jacobson, 1968, 1992)

Appendix C—Expert Solutions to the Twelve Most

Common Training Delivery Problems of Novice Trainers

(Swanson & Falkman, 1997)

PROBLEM 1: FEAR
A. *Be well prepared*. Expert trainers have a detailed lesson plan, understand the material, and practice their presentation
B. *Use icebreakers*. Experts use icebreakers and begin with an activity that relaxes participants and gets them to talk and become involved.
C. *Acknowledge the fear*. Experts understand that fear is normal, confront what makes them afraid, and use positive self-talk or relaxation exercises prior to the presentation.

PROBLEM 2: CREDIBILITY
A. *Don't apologize*. Experts are honest about the subject matter and explain that they are neither experts nor conduits.
B. *Have an attitude of an expert*. Experts are well-prepared and well-organized. They listen, observe, and apply what they know to what the participants know.
C. *Share personal background*. Experts talk about their area of expertise and the variety of experiences they have had.

PROBLEM 3: PERSONAL EXPERIENCES
A. *Report personal experiences.* Experts tell their personal experiences, sometimes asking themselves probing questions to uncover them.
B. *Report experiences of others*. Experts collect personal stories and incidents from other people and/or have participants share their experiences.
C. *Use analogies, movies, or famous people*. Experts use familiar incidents or situations in order to relate to the subject.

PROBLEM 4: DIFFICULT LEARNERS
A. *Confront problem learner*. Experts use humor. They may also talk to the individual during a break to determine the problem or to ask the person to leave.
B. *Circumvent dominating behavior*. Experts use non-verbal behavior, such as breaking eye-contact or standing with their backs to the person and inviting others to participate.
C. *Small groups for timid behavior*. Experts find that quiet people feel more comfortable talking in small groups or dyads. They structure exercises where a wide range of participation is encouraged.

PROBLEM 5: PARTICIPATION
A. *Ask open-ended questions*. Experts incorporate questions into the lesson plans and provide positive feedback when people do participate.
B. *Plan small group activities*. Experts use dyads, case studies, and role plays to allow people to feel comfortable, to reduce fears, and to increase participation.
C. *Invite participation*. Experts structure activities that allow people to share at an early time in the presentation.

PROBLEM 6: TIMING
A. *Plan well*. Experts plan for too much material, and some parts of the material are expendable. They prioritize activities so that parts may be deleted, if necessary.
B. *Practice, practice, practice*. Experts practice the material many times so they know where they should be at 15-minute intervals. They make sure there's a clock in the training room.

PROBLEM 7: ADJUST INSTRUCTION
A. *Know group needs*. Experts determine the needs of the group at an early time in the training and structure activities and processes based on those needs.
B. *Request feedback*. Experts watch for signs of boredom and ask participants either during breaks or periodically during the session how they feel about the training.
C. *Redesign during breaks*. Experts find it helpful to have contingency plans and, if necessary, to redesign the program during a break. Redesigning during delivery is not advocated.

PROBLEM 8: QUESTIONS
Answering questions
A. *Anticipate questions*. Experts prepare by putting themselves in the participant's place and by writing out key questions learner's might have.
B. *Paraphrase learner's questions*. Experts repeat and paraphrase participants' questions to ensure that everyone has heard the questions and understands them.
C. *"I don't know" is okay*. Experts redirect questions they can't answer back to the group's expertise. They try to locate answers during breaks.

Asking questions
A. *Ask concise questions*. Questions are a great tool for experts. They ask concise, simple questions and provide enough time for participants to answer.

PROBLEM 9: FEEDBACK
A. *Solicit informal feedback*. Experts ask participants, either during class or at the break, if the training is meeting their needs or expectations. They also watch for non-verbal cues.
B. *Do summative evaluations*. Experts have participants fill out forms at the conclusion of training to determine if the objectives and needs of the group were met.

PROBLEM 10: MEDIA, MATERIALS, FACILITIES
Media
A. *Know equipment*. Experts know how to fully operate every piece of equipment they use.
B. *Have back-ups*. Experts carry a survival kit of extra bulbs, extension cords, markers, tape, etc. They also bring the information they are presenting in another medium.
C. *Enlist assistance*. Experts are honest with the group if there is a breakdown and ask if anyone can be of assistance.

Materials
A. *Be prepared*. Experts have all material ready and placed at each participant's workplace or stacked for distribution.

Facilities
A. *Visit facility beforehand*. Experts visit a new facility ahead of time, if possible, to see the layout of the room and to get an idea of where things are located and how to set up.
B. *Arrive early*. Experts arrive at least one hour in advance to ensure enough time for setting up and handling problems.

PROBLEM 11: OPENINGS AND CLOSINGS

Openings

A. *Develop an "openings file"*. Experts rely on the many sources for ice-breaker ideas. Through observation and experimentation, they develop ideas and keep a file of them.

B. *Memorize*. Experts develop a great opening and memorize it.

C. *Relax trainees*. Experts greet people as they enter, take time for introductions, and create a relaxed atmosphere.

Closings

A. *Summarize concisely*. Experts simply and concisely summarize the contents of the course, using objectives or the initial model.

B. *Thank participants*. Experts thank participants for their time and their contributions to the course.

PROBLEM 12: DEPENDENCE ON NOTES

A. *Notes are necessary*. Experts recognize that no one completely outgrows the need for notes.

B. *Use cards*. Experts scale down their presentations to an outline or key words, which they write on note cards to use as prompts.

C. *Use visuals.* Experts make notes on frames of transparencies and on their copies of handouts.

D. Practice. Experts learn the script well so that they can deliver it from the keyword note cards.

Appendix D—Outline of Reflection, Learning and Planning (RLP) Sessions

Session 1 (Late November):

Reflection – Use online journal to reflect on the status of each principal's school based on G/FMN Framework observations conducted prior. Principals briefly share with the group.

Learning – The four learning threats, growth mindsets, interventions available, and andragogy best practices.

Planning – Action plan for the next two weeks in building GMN at site. Share.

Session 2 – 3 (December through January):

Reflection – Use online journals to reflect on Growth Mindset Norm building actions/activities/strategies/interventions implemented since previous session.

Learning – Best practices sharing from cohort and deeper levels of the four learning threats, growth mindsets, interventions available, and andragogy

Planning – Action plan for the next two weeks in GMN at site. Share.

Session 4 (February):

Reflection – Use online journals to reflect on Growth Mindset Norm building actions/activities/strategies/interventions implemented since previous session.

Learning – Best practices sharing from cohort and deeper levels of the four learning threats, growth mindsets, interventions available, and andragogy

Planning – Action plan for how principals will proceed without the support of the cohort to sustain GMN.

Focus Group – Open ended questioning to derive agreed upon best practices, barriers, and drivers list.

Appendix E—School and Home Versions of the Growth and Fixed Mindset Norm Framework

Growth and Fixed Mindset Norms (G/FMN) Framework: School and Classroom Culture

	Growth Mindset Norms*	Fixed Mindset Norms*
1	Teachers provide academic challenges for all Students taught to embrace/seek challenges and persist in the face of setbacks	Teachers do not provide academic challenges for all Students permitted to avoid challenges and give up easily
2	Teachers and students state, "Oh! I like a challenge!" or something similar	Teachers and/or students state, "This is too hard. I give up." or something similar and is unaddressed
3	Teachers and students see/communicate that effort and practice are the path to mastery Teachers and students acknowledges getting smart/intelligent from effort	Teachers and students see/communicate that effort is fruitless due to ability and talent being innate Teachers and students state, "I'm just not a math person." or something similar
4	Teachers give incremental clues and cues when students are not there yet and during questioning Students in cooperative settings help, but don't tell/do for others Teachers never do something for a child that the child can do for themselves in a learning situation	Teachers dispense information to students Teachers give answers when students don't have them Students in cooperative settings tell answers, allow copying or do the work for others Teachers bail out students who struggle (by telling and/or doing the task for the student)
5	Teacher models and teaches persistence Teachers use wait time and encourage all to be patient during thinking opportunities Students persist in thinking exercises until complete Students are allowed to have ample think and do time during activities Students seek help only after giving true effort	Teacher models giving up No or not enough thinking and/or doing time given Teachers go with first student to come up with an answer or allows calling out (not unison calls) Students give up during thinking exercises Students ask for help without true effort applied repeatedly to an activity
6	Teachers and students praise and give feedback on effort and strategy Teachers give incremental and specific feedback during lessons and on student products Teachers and students communicate that they learn from criticism/feedback and are accepting of it	Teachers and students praise and give feedback on intelligence/smartness, correctness and/or behavioral compliance Teachers give right and wrong feedback mostly Teachers and students ignore/avoid giving and receiving useful criticism and feedback
7	Teachers models being wrong as being a big learning opportunity Students are taught to embrace mistakes and the learning that comes from them Students are made to feel comfortable being wrong in public	Teachers shows a dislike for mistakes Teachers promote a feeling of wrong being bad and/or to avoid being wrong in public Students communicate that being wrong is bad (ridicule) Teachers and students hide being wrong (helpless techniques)

8	Teachers and students show when others succeed they find learning and inspiration in their success	Teachers and students show when others succeed they are threatened by their success
9	Teachers and students see/communicate that assignments and assessments are about learning and personal growth	Teachers and students see/communicate that assignments and assessments are about comparison/ranking and grades
10	Teachers provide performance tasks and constructed response type activities	Teachers give activities and measures designed to compare, rank and grade students
11	Teachers and students recognize and/or celebrate personal growth	Teachers and students recognize and celebrate top achievers/achievement only
	The school has systems to celebrate personal growth at least as much as celebrations of top achievers	The school primarily has systems to reward top achievers

*All norms can be viewed also as messages written on assignments, texts, novels, videos, posters, walls, bulletin boards, announcements, flyers, newsletters, websites, phone calls, staff development materials, etc.

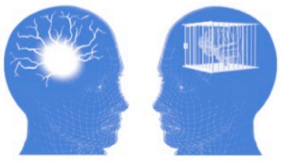
Growth and Fixed Mindset Norms (G/FMN) Framework: Home and Family Culture

	Growth Mindset Norms*	**Fixed Mindset Norms***
1	Parent provides academic challenges at home	Parent do not provide academic challenges at home
	Child is taught/expected to embrace/seek challenges and persist in the face of setbacks	Child is permitted to avoid challenges and give up easily
2	Parent and child state, "Oh! I like a challenge!" or something similar	Parent and/or child state, "This is too hard. I give up." or something similar (may be unaddressed)
3	Parent and child see/communicate that effort and practice are the path to mastery	Parent and child see/communicate that effort is fruitless due to ability and talent being innate
	Parent and child acknowledges getting smart/intelligent from effort	Parent and child state, "I'm just not a math person." or something similar
4	Parent gives incremental clues and cues when child is not there yet and during questioning	Parent dispense information to child
	In academic support settings siblings and other supporters don't tell/do for others	Parent gives answers when child doesn't have it
	Parent never does something for a child that the child can do for themselves in a learning situation	In academic support settings, child is told answers, allowed to copy or has the work done by others
		Parent bails out child who struggles (by telling and/or doing the task for the child)
5	Parent models and teaches persistence	Parent models giving up
	Parent uses wait time and encourages the child to be patient in thinking and learning exercises	No or not enough thinking and/or doing time given
	Child persists in thinking exercises until complete	Parent is impatient with child while thinking
	Child is allowed to have ample think and do time during activities	Child gives up during thinking exercises
	Child seeks help only after giving true effort	Child asks for help without true effort applied repeatedly to an activity
6	Parent praises and give feedback on effort and strategy	Parent and child praises and gives feedback on intelligence/smartness, correctness and/or behavioral compliance
	Parent gives incremental and specific feedback	

	during home learning and on child products	Parent give right and wrong feedback mostly
	Parent and child communicate that they learn from criticism/feedback and are accepting of it	Parent and/or child ignore/avoid giving and receiving useful criticism and feedback
7	Parent models being wrong as being a big learning opportunity Child is taught to embrace mistakes and the learning that comes from them Child is made to feel comfortable being wrong in public	Parent shows a dislike for mistakes Parent promotes a feeling of wrong being bad and/or to avoid being wrong in public Child communicates that being wrong is bad (ridicule) Parent and child hide being wrong (helpless techniques)
8	Parent and child show when others succeed they find learning and inspiration in their success	Parent and child show when others succeed they are threatened by their success
9	Parent and child see/communicate that assignments and assessments are about learning and personal growth	Parent and child see/communicate that assignments and assessments are about comparison/ranking and grades
10	Parent provide performance tasks and constructed response type activities to enrich/remediate	Parent gives activities and measures designed to compare, rank and grade child
11	Parent and child recognize and/or celebrate personal growth at least as much as celebrations of top achievement	Parent and child recognize and celebrate top achievement only

*All norms can be viewed also as messages written in the home as well.

Appendix F—Suggested Strategies Given to Principals

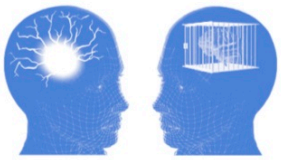


Growth Mindset Culture Building Leaders

Strategies Currently in Use by Schools/Teachers:

1. Add GM language to mission, vision and/or values. Conduct PD activities that excite staff around mission, vision and/or values. Making is explicitly what it means to use that filter for your actions, vs. it just being on the walls.
2. Give GM literature to ILT/Leadership team and strategize a year-long PD plan and family development/engagement plan.
3. Write a yearlong plan for embracing GM across the school with specific actions, dates and leaders.
4. Have ALL staff read, "Mindset." By Dweck. Purchase for staff.
5. Have each grade level team or department make presentations to the whole staff on a chapter. Have them replicate presentations for parents at parent training events. (Jigsaw the book)
6. Have Middle and High School students read "Mindset." Have elementary student reads excerpts and appropriate articles.
7. Staff wide (not just teachers/leaders) literature study of GM outside of "Mindset."
8. Staff wide survey tool used to assess one's GM/FM. Staff reflection on survey results.
9. Teach all students about mindsets through a shared piece of literature/reading daily or weekly in advisory/mentorship/life skills/homeroom across the school.
10. School wide writing assignment on mindsets.
11. Student lead poster making- advertise building a GM and refraining from FM actions.
12. Have students mentor younger students on GM.
13. Students execute a project of teaching GM to family members and report out on the experience.
14. Students create a web page or blog advertising having a GM.
15. Students research role models who exhibit GM behaviors.
16. Teachers individually mentor students who exhibit fixed mindsets through actions and speech about GM. Set up experiences where they can see GM habits being successful.
17. Conduct a series of parental newsletters with family homework on GM/FM. Includes reporting out on how they either have reflected on building GM/FM intentionally, or unintentionally at home.
18. Look at Instructional Framework used at schools/school system and align areas of excellent instruction with indicators of building a GM (See IG's G/FMN Framework for an easy tool to do this with). Staff can do this together in PD, or in depts.

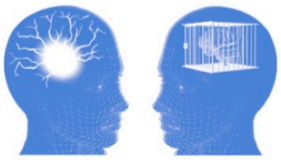
If you don't build your school culture intentionally, one will be built for you.



Growth Mindset Culture Building Leaders

19. Use videos on GM to compliment teacher, student and parent development on GM. Type: Growth Mindset in YouTube.
20. Use Mindset Works School-Wide Approach online (Tool Kit)
    1. (http://www.mindsetworks.com/mindset-school/)
21. Use Mindset Works Educator Training Tools (Modules for PD)
    1. (http://www.mindsetworks.com/professional-development-and-tools/)
22. Use Mindset Works Student Training Program (For Students Independently)
    1. (http://www.mindsetworks.com/brainology/)
23. Teachers use Brainology Smartboard or projector slides (or PDF) with students and/or colleagues: http://www.mindsetworks.com/program/making-the-case-for-brainology.aspx
24. Have all teachers sign up for the 14 day trial and get on the Newsletter mailing list with useful tips and strategies: https://www.brainology.us/signup/signup.aspx
25. Hire an outside consultant to conduct professional development short and long term for staff.
26. Instructional leaders coach teachers individually on classroom culture norms.
27. Teachers look at video of their own lessons to illuminate actions that lead to building a GM culture or FM culture.
28. Teachers conduct critical friend observations assessment each other's GM culture and FM culture.
29. Revamp approach of School Psychologist, Social Workers and Counselors to speak the language of GM. Give them feedback when it is noticed they speak in FM terms.
30. Instructional leaders add GM/FM norms to their instructional supervision repertoire:
    1. Including drawing parallels with Stull items that connect with GM/FM norms.
31. Adopt school wide focus norms weekly to improve across the school.
32. Teacher set goals for norms they want to address and write development plans for addressing the norm.
33. Identify model teachers on site that others can physically observe and/or video for all staff to observe.
34. Develop a culture at school where top achievers get only equal recognition to those who make improvement.

If you don't build your school culture intentionally, one will be built for you.



Growth Mindset Culture Building Leaders

54. School shifts to writing all assessment measures as apply level and not skill/remember/understand.
55. Student newspaper edition devoted solely to having a GM for a period of time. Each article takes on a different angle on having/developing GM.
56. Teach school wide the vocabulary of Growth Mindsets – Incremental, entity, growth, fixed, neuroplasticity, neurogenesis, etc. Make it a part of the expected academic language; add to vocabulary tests and spelling tests.
57. Post growth mindset terms expected to be used school wide (anything is possible; try before asking for help- and fixed mindset terms (good luck. I'm not a math person). Empower students to add to the lists in classrooms and across the school. List grows all year. Make announcements school wide of new growth mindset phrases being used by students (quotes too) and fixed mindset phrases to get rid of.
58. Teach students to productively "call each other out" on fixed mindset behaviors and statements.
59. Teach students to be metacognitive about their mindset. Celebrate students who share in class when they catch themselves being fixed, and recognizing it to make a shift.
60. Teach students and teachers about attribution theory: You can chalk up your success or failure to either of four attributions: Internal- ability or effort; External- difficulty of the task or luck. Students and teachers should focus on their effort toward the task vs. the difficulty of the task, not just their ability or being unlucky. This is empowering and changes a person's attitude.
61. Teachers conduct individual interviews with their students about their mindset and experiences in life to understand why they possess that mindset. Teacher cognitively coaches them to improve their mindset.
62. Conduct staff role-plays on teacher responses to classroom situations, parent situations and colleague situations that should result in the teacher building a GM norm. Have staff give the teacher role-playing the teacher part feedback on how they did. Conduct with non-instructional staff as well in regards to how they interact with students, staff and parents.

If you don't build your school culture intentionally, one will be built for you.

Appendix G—Action Planning Format

Session #1 - March 1, 2012

Reflection

What does your baseline data tell you about your cultural norms as they relate to growth mindsets and motivating students? The data paints a picture of an inconsistent culture.

What stands out to you most?

Planning to Act:

Action 1: [Insert what you want to do before the 27th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Action 2: [Insert what you want to do before the 27th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Action 3: [Insert what you want to do before the 27th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Session #2- March 27, 2012

Reflection

What were the results of your actions planned in RLP #1?

Did you do anything else you hadn't planned on doing in RLP #1? If so, what?

What were the drivers that made a positive difference in your culture (beyond Implementation Drivers too)?

What were the barriers that impacted the plans you made to build GMNs?

Planning to Act:

Action 1: [Insert what you want to do before the 19th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			

Performance Assessment			

Action 2: [Insert what you want to do before the 19th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Action 3: [Insert what you want to do before the 19th at your school]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Session #3- April 19, 2012

Reflection

What were the results of your actions planned in RLP #2?

Did you do anything else you hadn't planned on doing in RLP #2? If so, what?

What were the drivers that made a positive difference in your culture (beyond Implementation Drivers too)?

What were the barriers that impacted the plans you made to build GMNs?

Planning to Act:

Action 1: [Insert what you want to do before the end of the school year]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

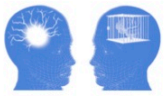
Action 2: [Insert what you want to do before the end of the school year]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Action 3: [Insert what you want to do before the end of the school year]

Driver	Describe Task	Who?	When?
Recruitment and Selection			
Training			
Coaching			
Facilitative Administration			
Decisions Supported by Data System			
Systems Interventions			
Performance Assessment			

Appendix H—Sample of G/F Mindset Norm Report



G/F Mindset Norm Final Report

School Name	Principal	Date of Data Collection
School C	*Principal C*	*1/20/2012 (n = 6)* *5/3/2012 (n = 5)*

	Growth Mindset Norms	Fixed Mindset Norms
1	Teachers provide academic challenges for all Students taught to embrace/seek challenges and persist in the face of setbacks	Teachers do not provide academic challenges for all Students permitted to avoid challenges and give up easily
Baseline %	0	100
Final %	60	60
Δ % Pts.	+60 ↑	-40 ↓

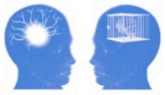
2	Teachers and students state, "Oh! I like a challenge!" or something similar	Teachers and/or students state, "This is too hard. I give up." or something similar (may be unaddressed)
Baseline %	0	0
Final %	20	0
Δ % Pts.	+20 ↑	0

Δ MO % Pts.	Baseline Missed Opportunities %	Final Missed Opportunities %
-20 ↓	100	80

3	Teachers and students see/communicate that effort and practice are the path to mastery Teachers and students acknowledges getting smart/intelligent from effort	Teachers and students see/communicate that effort is fruitless due to ability and talent being innate Teachers and students state, "I just not a math person." or something similar
Baseline %	0	0
Final %	80	0
Δ % Pts.	+80 ↑	0

Δ MO % Pts.	Baseline Missed Opportunities %	Final Missed Opportunities %
-80 ↓	100	20

Not Prevalent	Moderately Prevalent	Highly Prevalent
(0% to 32%)	(33% to 65%)	(66% to 100%)



G/F Mindset Norm Final Report

4	Teachers give incremental clues and cues when students are not there yet and during questioning Students in cooperative settings help, but don't tell/do for others Teachers never do something for a child that the child can do for themselves in a learning situation	Teachers dispense information to students Teachers give answers when students don't have them Students in cooperative settings tell answers, allow copying or do the work for others Teachers bail out students who struggle by telling and doing the potential learning situation for the student
Baseline %	67	83
Final %	80	20
Δ % Pts.	+13 ↑	-63 ↓

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-33 ↓	33	0

5	Teacher models and teaches persistence Teachers use wait time and encourage all to be patient during thinking opportunities Students persist in thinking exercises until complete Students are allowed to have ample think and do time during activities Students seek help only after giving true effort	Teacher models giving up No or not enough thinking and/or doing time given Teachers go with first student to come up with an answer or allows calling out (not unison calls) Students give up during thinking exercises Students ask for help without true effort applied repeatedly to an activity
Baseline %	50	17
Final %	80	40
Δ % Pts.	+30 ↑	+23 ↑

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-33 ↓	33	0

6	Teachers and students praise and give feedback on effort and strategy Teachers give incremental and specific feedback during lessons and on student products Teachers and students communicate that they learn from criticism/feedback and are accepting of it	Teachers and students praise and give feedback on intelligence/smartness, correctness and/or behavioral compliance Teachers give right and wrong feedback mostly Teachers and students ignore/avoid giving and receiving useful criticism and feedback
Baseline %	33	33
Final %	100	0
Δ % Pts.	+67 ↑	-33 ↓

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-67 ↓	67	0

Not Prevalent (0% to 32%)	**Moderately Prevalent** (33% to 65%)	**Highly Prevalent** (66% to 100%)

G/F Mindset Norm
Final Report

7	Teachers models being wrong as being a big learning opportunity Students are taught to embrace mistakes and the learning that comes from them Students are made to feel comfortable being wrong in public	Teachers shows a dislike for mistakes Teachers promote a feeling of wrong being bad and/or to avoid being wrong in public Students communicate that being wrong is bad (ridicule) Teachers and students hide being wrong (helpless techniques)
Baseline %	0	0
Final %	80	20
Δ % Pts.	+80 ↑	+20 ↑

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-80 ↓	100	20

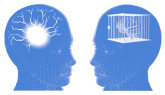
8	Teachers and students show when others succeed they find learning and inspiration in their success	Teachers and students show when others succeed they are threatened by their success
Baseline %	33	0
Final %	40	0
Δ % Pts.	+7 ↑	0

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-7 ↓	67	60

9	Teachers and students see/communicate that assignments and assessments are about learning and personal growth	Teachers and students see/communicate that assignments and assessments are about comparison/ranking and grades
Baseline %	17	0
Final %	60	0
Δ % Pts.	+43 ↑	0

Δ MO % Pts.	**Baseline Missed Opportunities %**	**Final Missed Opportunities %**
-43 ↓	83	40

Not Prevalent (0% to 32%)	**Moderately Prevalent** (33% to 65%)	**Highly Prevalent** (66% to 100%)



G/F Mindset Norm Final Report

10	Teachers provide performance tasks and constructed response type activities	Teachers give activities and measures designed to compare, rank and grade students
Baseline %	50	17
Final %	100	20
Δ % Pts.	+50 ↑	+3 ↑

Δ MO % Pts. -33 ↓	**Baseline Missed Opportunities %** 33	**Final Missed Opportunities %** 0

11	Teachers and students recognize and/or celebrate personal growth The school has systems to celebrate personal growth at least as much as celebrations of top achievers	Teachers and students recognize and celebrate top achievers/achievement only The school primarily has systems to reward top achievers
Baseline %	17	50
Final %	100	0
Δ % Pts.	+83 ↑	-50 ↓

Δ MO % Pts. -33 ↓	**Baseline Missed Opportunities %** 33	**Final Missed Opportunities %** 0

Norm Prevalence	Growth Norms			Fixed Norms		
	Base	Final	Δ	Base	Final	Δ
Highly Prevalent	1	7	+6↑	2	0	-2↓
Moderately Prevalent	4	3	-4↓	2	2	0
Not Prevalent	6	1	-5↓	7	9	+2↑

Not Prevalent (0% to 32%)	**Moderately Prevalent** (33% to 65%)	**Highly Prevalent** (66% to 100%)

Appendix I—Invitation and Enrollment Form for Participants

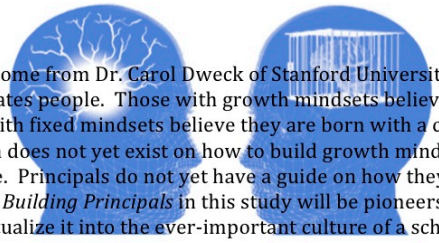
Seeking Principals to Become *Research Participants*

Do you want to reform your school culture through motivating your students to work hard toward getting to and through college?

Or…

Are you starting up a new school and want to build an academic culture that motivates your students to put in the effort it takes in getting to and through college?

What are Growth Mindsets?



The theory of Growth Mindsets come from Dr. Carol Dweck of Stanford University and many other's cutting edge research about what motivates people. Those with growth mindsets believe that with effort, they can grow their intelligence. Those with fixed mindsets believe they are born with a certain amount of intelligence and talent. Research does not yet exist on how to build growth mindsets into the NORMS of a school's daily business or culture. Principals do not yet have a guide on how they can do this important work in their schools. *Growth Mindset Building Principals* in this study will be pioneers, trailblazing for others how to take Dr. Dweck's work and actualize it into the ever-important culture of a school.

Growth Mindset Building Principal Benefits:

Participating *Growth Mindset Building Principals* will:

- Learn about Growth and Fixed Mindsets, and how they confront threats to learning and performance.
- Be the first group of leaders anywhere to bring about Growth Mindsets in their school cultures as **norms** through activities, strategies, staff development and methods of the group's choosing. Nothing is prescribed!
- Learn to use an online walkthrough tool to evaluate school culture norms.
- Learn to use an iPad for supervision, and how to use Google Forms, Google Docs, and Google Moderator.
- Build relationships with a cohort of principals working to do the same school culture norm setting at their sites.

Growth Mindset Building Principal Activities:

As a *Growth Mindset Building Principal*, you will:

1. Conduct one half or full day walk through of your classrooms in late September 2011 with the researcher to evaluate what norms already exist. The principal researcher will walk your site with you as a support.
2. Join four sessions with the other *Growth Mindset Building Principals*, lasting roughly 90 minutes each between October 2011 and January 2012. All sessions will be scheduled based on cohort availability.
3. Conduct a follow-up half or full day walk through of your classrooms in Late January 2012 to evaluate what norms you've been able to build! The principal researcher will walk your site with you again as a support.
4. Allow a small focus group of teachers and students at your site in early February 2012.
5. Virtually give your thoughts and opinions on the study's draft findings, allowing you to provide edits on the best practices the cohort will suggest for future school leaders aiming to do the same work at their own sites.

Growth Mindset Building Principal Compensation:

Each participating principal will need an **iPad** throughout the study period. Those who attend all sessions and complete each tasks necessary in the study ***will get to keep their iPad 2 3g granted to them by the researcher***. Those who already have an iPad to use during the study period ***can instead select $630*** in compensation for their full completion in the study.

How to Become a Growth Mindset Principal:

Contact **Ian Guidera** about more information or to sign up for the study by sending an email to iguidera@ucla.edu or call Ian at 310-740-7921. See Ian Guidera, *Principal Researcher's* bio at www.wested.org.

If you don't build your school culture intentionally, one will be built for you.

Appendix J—Agreements and Consent/Assent Forms

Memorandum of Understanding (MOU) Between Local District and Principal Investigator

DATE: June 30, 2011

TO: LAUSD Local District Superintendents and Principal Leaders

FROM: Ian Guidera, Principal Investigator

SUBJECT: Memorandum of Understanding (MOU) Regarding:

Principals Collaborating to Build Growth Mindset Norms:
School Culture Action Research

This MOU seeks approval for sending the attached Principal Recruitment flyer to principals in your LD in order to gain their interest for participating in the study ***"Principals Collaborating to Build Growth Mindset Norms: School Culture Action Research."*** Additionally, this MOU seeks approval from Local Districts for interested principals to add the content of this study to their professional development sequence for the school year of 2011-2012. They will be learning about Growth and Fixed Mindsets Theory, threats to learning (Teachers Pygmalions, Stereotype Threats, Fixed Mindsets and Negative School Culture Norms) and will collaborate with other LAUSD principals on building Growth Mindset Norms into their school cultures. This study does not aim to replace any LD planned professional development of willing principals who wish to participate. This study seeks to add professional development for interested LD principals.

Study Purpose:

This principal empowering, participatory action research study will focus on school principals in high-minority, low-income schools, working collaboratively in a small cohort. They will work to align beliefs about intelligence within their leaders, Teachers, students, and parents through building growth mindset norms into their school cultures. The study will document the experience a group of principals have and the process they use in bringing about growth mindset norms school wide. Principals will utilize the Growth/Fixed Mindset Norm (G/FMN) Framework built for this study, which condenses the growth and fixed mindset research on intelligence beliefs into descriptions of what growth mindsets would look like across a school culture (J. Aronson et al., 2002; Blackwell et al., 2007_ENREF_6; C. Dweck, 2007; Carol S. Dweck, 2005; Mueller & Dweck, 1998).

Research Questions:

1. What is the experience of a group of principals in high-minority, low-income schools collaborating to build schoolwide norms of growth mindsets?
2. What process do principals use to build schoolwide norms of growth mindsets at their high-minority, low-income schools?
3. What actions do principals perceive are most effective when building schoolwide norms of growth mindsets?
4. What actions do principals perceive are least effective when building schoolwide norms of growth mindsets?

Study Components and Time Commitment:

Participation in the study will take a total of about 13 hours over six months**.**
This includes:

- One half day school observation/walk-through with the researcher in late September (3 to 4 hours)

- One 1.5-hour RLP session in September, October, November, December outside of school hours.
- One half day school observation/walk-through with the researcher in late January (3 to 4 hours)
- Twenty minutes to an hour in March viewing and commenting on the initial results with an online tool

Local District and Participating Principal Burden:

No burden rests on the LD or LAUSD in order to conduct this study beyond signing this MOU signaling the agreement for the LD principals to receive recruitment materials and signaling approval of LD principal's to participate in the study.

Compensation for Principals:

Principals will receive a new iPad 2 to use during the study and to keep afterward. If they already have an iPad 2 for usage throughout the study period, they can opt to receive a $630 stipend instead. Their full compensation will be contingent upon completion of all agreed upon study components as stated in this document and the MOU between the Principal Participant and Principal Investigator *Ian Guidera*. Their performance, results and quality of participation are in now way contingencies for earning your iPad or stipend.

Confidentiality and Findings Implementation:

Any information that is obtained in connection with this study and that will identify principals, schools or the local district will remain confidential. It will be disclosed only with a principal's permission or as required by law. Confidentiality will be maintained by means of protecting all names, the name of your schools, the name of your local district and the name of all Teachers, students and parents of student's names with codes. This study is designed to empower school leaders and therefore all activities will be kept in the strictest of confidence. All data collected will be password protected on computers and also on hard drives that only the researcher has access to at all times. The data will be destroyed roughly 10 years from the completion of this study.

Findings will be used in partial completion of a Doctorate of Education through UCLA and will be published as a dissertation. Any follow up conference, article or book publishing of findings will continue to protect all confidentiality rights of participants stated in this MOU and all consent forms approved by the LAUSD Committee for External Review and UCLA Institutional Review Board. Principals will have the right to ask for their true name to be included in any related publishing if they so choose.

Project Inquires:

Principal Investigator: Ian Guidera at 310-740-7921 and iguidera@ucla.edu
Dissertation Co-Chair: Robert Cooper, Ph.D. 310-27-2494 at cooper@gseis.edu
Dissertation Co-Chair: Diane Durkin, Ph. D. 310-825-0614 at durkin@humnet.ucla.edu
UCLA GSE&IS Moore Hall, Box 951521 405 Hilgard Avenue Los Angeles, CA 90095

If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please call the Office of the Human Research Protection Program at (310) 825-7122 or write to Office of the Human Research Protection Program, UCLA, 11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

SIGNATURE OF Local District Superintendent or Principal Leader

I understand the procedures described above. My questions have been answered to my satisfaction. I agree to allow principals in my Local District to be sent the recruitment flyer and

if the principals choose to do so, they can participate in this study. I have been given a copy of this form.

Name of Local Superintendent or Leader	Title/Position

Name of Local District

Signature of Superintendent or Leader	Date

SIGNATURE OF PERSON OBTAINING PARENTAL PERMISSION

In my judgment, the above district leader is voluntarily and knowingly giving permission for his/her Local District principals to participate in this research study.

Ian Andrew Guidera	310-740-7921
Name of Person Obtaining Parental Permission	Contact Number

	6-30-2011
Signature of Person Obtaining Parental Permission	Date

Principal Informed Consent Form

University of California, Los Angeles
CONSENT TO PARTICIPATE IN RESEARCH
Principals Collaborating to Build Growth Mindset Norms: School Culture Action Research

You are volunteering to participate in a research study conducted by Ian Guidera, M. Ed. and 2012 Ed. D. candidate at the University of California, Los Angeles. You were selected as a possible participant in this study because you have expressed interest in building *Growth Mindset Norms* at your school site. Your participation in this research study is voluntary and can be terminated at any time by yourself or the researcher.

Why is this study being done?

This study is being done to provide principals with research-based tools for improving learning at their schools. By having a cohort of principals work together over six months to build positive school culture norms, their experience will provide a valuable guide for future leaders who wish to improve learning by building *Growth Mindset Norms* into their own school cultures. This study aims to empower leaders and Teachers to confront threats to learning and performance while constructing a school culture that promotes effort and growth.

What will happen if I take part in this research study?

If you volunteer to participate in this study, the researcher will ask you to do the following:

1) You will walk your school with the research and collaboratively look for evidence of Growth and Fixed Mindsets in the school culture over one half day.
2) You will join a cohort of principals to meet over four one and a half hour sessions (RLP) to reflect on your school culture, learn about the research this study is built on, and collaboratively plan to act in building *Growth Mindset Norms* at your school. Nothing you do at your schools will be prescribed.
3) You will support the researcher set up one 10 Teachers and one 10 student focus group to have them share their experience with *Growth Mindset Norms* over the six month period you participated in the RLP sessions.
4) You will review online the initial findings of best practices derived from the cohort of principals and have the ability to comment and make changes.
5) Continue working after the study period in your own way to bring about *Growth Mindset Norms* in your school culture.

How long will I be in the research study?

Participation in the study will take a total of about 13 hours over six months**.**
This includes:

- One half day school observation/walk-through with the researcher in late September (3 to 4 hours)
- One 1.5-hour RLP session in September, October, November, December outside of school hours.
- One half day school observation/walk-through with the researcher in late January (3 to 4 hours)
- Twenty minutes to an hour in March viewing and commenting on the initial results with an online tool

Are there any potential risks or discomforts that I can expect from this study?

There are no potential risks or discomforts you can expect from this study.

Are there any potential benefits if I participate?

You may benefit from the study due to having worked closely with an expert on the research around school culture and *Growth Mindsets*. Also, you will benefit from collaborating with principals striving to bring about the same results in their schools along side your work. The *Growth Mindset Norms* you build into the culture of your school have been shown to remove threats to student learning and performance. Sustaining the norms in your culture could yield improved student performance at your school. The results of the research may lead to an improved school climate, increased student achievement, improved Teachers perception of the school, improve parenting skills at home, and the acceleration of any in motion school reform efforts. You will learn how to use an iPad as a supervision tool, as well as Google Forms, Google Docs and Google Moderator.

Will I receive any payment if I participate in this study?

You will receive a new iPad 2 to use and keep at the end of the study. If you already have an iPad for usage throughout the study, you can opt to receive a $630 stipend instead. Your full compensation will be contingent upon completion of all agreed upon study components as stated in this document. Your performance, results and quality of participation are in no way contingencies for earning your iPad or stipend.

Will information about me and my participation be kept confidential?

Any information that is obtained in connection with this study that can identify you will remain confidential. It will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of protecting your name, the name of your school and the name of your Teachers and students with codes. Example: Principal A serves at school A where we will conduct a focus group with Teachers AT1 through AT10 and students AS1 through AS10. This study is designed to empower school leaders and therefore all activities will be kept in the strictest of confidence. All data collected will be password protected on computers and also on hard drives that only the researcher has access to at all times. The data will be destroyed roughly 10 years from the completion of this study.

Withdrawal of participation by the investigator

The investigator may withdraw you from participating in this research if circumstances arise which warrant doing so. If you conduct yourself during the principal collaboration RLP sessions in a manner that affects the quality of the work by the group, you may be asked to leave the study, even if you would like to continue. The investigator will make the decision and let you know if it is not possible for you to remain. The decision may be made to protect the collaborative, participatory aims of this study since it is built on empowering the participants. You may withdraw yourself at any time, but if you do so or are withdrawn, you will not be eligible to keep your iPad or take the stipend option.

What are my rights if I take part in this study?

You may withdraw your consent at any time and discontinue participation without penalty or loss of benefits to which you were otherwise entitled. You can choose whether or not you want to be in this study. If you volunteer to be in this study, you may leave the study at any time without consequences of any kind. You are not waiving any of your legal rights if you choose to be in this research study. You may refuse to answer any questions that you do not want to answer and still remain in the study.

Who can answer questions I might have about this study?

In the event of a research related injury, please immediately contact the researcher listed below. If you have any questions, comments or concerns about the researcher, you can talk to the one of the UCLA Dissertation Chairs. Please contact:
Principal Investigator: Ian Guidera at 310-740-7921 and iguidera@ucla.edu
Dissertation Co-Chair: Robert Cooper, Ph.D. 310-27-2494 at cooper@gseis.edu
Dissertation Co-Chair: Diane Durkin, Ph. D. 310-825-0614 at durkin@humnet.ucla.edu
UCLA GSE&IS Moore Hall, Box 951521 405 Hilgard Avenue Los Angeles, CA 90095
If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please call the Office of the Human Research Protection Program at (310) 825-7122 or write to Office of the Human Research Protection Program, UCLA, 11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

SIGNATURE OF STUDY PARTICIPANT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Participant	School Name
Signature of Participant	Date

SIGNATURE OF PERSON OBTAINING CONSENT

In my judgment the participant is voluntarily and knowingly giving informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Ian Andrew Guidera	310-740-7921
Name of Person Obtaining Consent	Contact Number
	6-30-2011
Signature of Person Obtaining Consent	Date

Teachers Informed Consent Form

University of California, Los Angeles
CONSENT TO PARTICIPATE IN RESEARCH
Principals Collaborating to Build Growth Mindset Norms:
School Culture Action Research

You are volunteering to participate in a research study conducted by Ian Guidera, M. Ed. and 2012 Ed. D. candidate at the University of California, Los Angeles. You were selected as a possible participant in this study because you have expressed interest in speaking about your principal building *Growth Mindset Norms* at your school site. Your participation in this research study focus group is voluntary and can be terminated at any time by yourself or the researcher.

Why is this study being done?

This study is being done to provide principals with research-based tools for improving learning at their schools. By having a cohort of principals work together over six months to build positive school culture norms, their experience will provide a valuable guide for future leaders who wish to improve learning by building *Growth Mindset Norms* into their own school cultures. This study aims to empower leaders and Teachers to confront threats to learning and performance while constructing a school culture that promotes effort and growth.

What will happen if I take part in this research study?

If you volunteer to participate in this study, the researcher will ask you to do the following:

1) Participate with other Teachers in a focus group to discuss your experience with your principal building *Growth Mindset Norms* in your school this year. This will occur on campus, outside of work hours.

How long will I be in the research study?

Participation for you as a Teachers in the focus group is an hour or less.

Are there any potential risks or discomforts that I can expect from this study?

There are no potential risks or discomforts you can expect from this study.

Are there any potential benefits if I participate?

You will be giving the researcher invaluable data to help understand what was successful and what was not successful at your school this year in building *Growth Mindset Norms*. The results of this study may allow your principal to improve motivation and learning by continue to be strategic about this work at your school in the future.

Will I receive any payment if I participate in this study?

There is no payment of any kind for participating in the Teachers focus group.

Will information about me and my participation be kept confidential?

Any information that is obtained in connection with this study that can identify you will remain confidential. It will be disclosed only when required by law. Confidentiality will be maintained by means of protecting your name, the name of your school and the name of all other Teachers and students with codes. This study is designed to empower school leaders and therefore all activities will be kept in the strictest of confidence. All data collected will be password protected on computers and also on hard drives that only the researcher has access to at all times. The data will be destroyed roughly 10 years from the completion of this study.

Withdrawal of participation by the investigator

The investigator may withdraw you from participating in this research if circumstances arise which warrant doing so. If you conduct yourself during focus group in a manner that affects the quality of the work of the group, you may be asked to leave, even if you would like to continue. The investigator will make the decision and let you know if it is not possible for you to remain. You may withdraw yourself at any time by not speaking, verbal notice, or simply by leaving the focus group.

What are my rights if I take part in this study?

You may withdraw your consent at any time and discontinue participation without penalty or loss. You can choose whether or not you want to be in this study. If you volunteer to be in this study, you may leave at any time without consequences of any kind. You are not waiving any of your legal rights if you choose to be in this research study. You may refuse to answer any questions that you do not want to answer and still remain in the study.

Who can answer questions I might have about this study?

In the event of a research related injury, please immediately contact the researcher listed below. If you have any questions, comments or concerns about the researcher, you can talk to the one of the UCLA Dissertation Chairs. Please contact:
Principal Investigator: Ian Guidera at 310-740-7921 and iguidera@ucla.edu
Dissertation Co-Chair: Robert Cooper, Ph.D. 310-27-2494 at cooper@gseis.edu
Dissertation Co-Chair: Diane Durkin, Ph. D. 310-825-0614 at durkin@humnet.ucla.edu
UCLA GSE&IS Moore Hall, Box 951521 405 Hilgard Avenue Los Angeles, CA 90095

If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please call the Office of the Human Research Protection Program at (310) 825-7122 or write to Office of the Human Research Protection Program, UCLA, 11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

SIGNATURE OF STUDY PARTICIPANT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Participant	School Name
Signature of Participant	Date

SIGNATURE OF PERSON OBTAINING CONSENT

In my judgment the participant is voluntarily and knowingly giving informed consent and possesses the legal capacity to give informed consent to participate in this research study.

Ian Andrew Guidera	310-740-7921
Name of Person Obtaining Consent	Contact Number
	6-30-2011
Signature of Person Obtaining Consent	Date

Parent Informed Consent Form (Minor)

University of California, Los Angeles
PARENT PERMISSION FOR MINOR TO PARTICIPATE IN RESEARCH
Principals Collaborating to Build Growth Mindset Norms:
School Culture Action Research

You are volunteering your child to participate in a research study conducted by Ian Guidera, M. Ed. and 2012 Ed. D. candidate at the University of California, Los Angeles. Your child was selected as a possible participant in this study because he or she attends a school where the principal is working in this study to build *Growth Mindset Norms* in the school culture. Your child's participation in this research study is voluntary.

Why is this study being done?

This study is being done to provide principals with research-based tools for improving learning at their schools. By having a cohort of principals work together over six months to build positive school culture norms, their experience will provide a valuable guide for future leaders who wish to improve learning by building *Growth Mindset Norms* into their own school cultures. This study aims to empower leaders and Teachers to confront threats to learning and performance while constructing a school culture that promotes effort and growth.

What will happen if my child takes part in this research study?

If you agree to allow your child to participate in this study, we would ask him/her to:

Participate in a focus group with several others students to answer questions together about their school experience this year in relation to the staff working to build Growth Mindset Norms into the school culture.

How long will my child be in the research study?

Participation in the study will take a total of about one hour, starting just after the end of the school day.

Are there any potential risks or discomforts that my child can expect from this study?

There are no potential risks or discomforts you can expect from this study.

Are there any potential benefits if my child participates?

Your child may benefit from the study by providing invaluable input on their experience this year to inform the work of their school leader continuing to improve the building of *Growth Mindset Norms* into the school's culture.

The results of the research may result in published articles and/or books that will serve as a guide for other principals who want to do similar work at their schools.

Will my child receive any payment if he/she participates in this study?

Your child will receive no payment for his/her participation.

Will information about my child's participation be kept confidential?

Any information that is obtained in connection with this study and that can identify your child will remain confidential. It will be disclosed only with your permission or as required by law. Confidentiality will be maintained by means of protecting your name, your child's name, the name of your school and the name of all Teachers and other students with codes. This study is designed to empower school leaders and therefore all activities will be kept in the strictest of confidence. All data collected will be password protected on computers and also on hard drives that only the researcher has access to at all times. The data will be destroyed roughly 10 years from the completion of this study.

Withdrawal of participation by the investigator

The investigator may withdraw your child from participating in this research if circumstances arise which warrant doing so. If your child interrupts the quality of the focus group, they may be asked to leave. The investigator will make the decision and let you know if it is not possible for your child to continue. The decision may be made either to protect your child's health and safety, or because they are holding back the progress of the focus group due to inappropriate behavior.

What are my rights if my child takes part in this study?

You may withdraw your permission at any time and discontinue your child's participation without penalty or loss of benefits to which you or your child were otherwise entitled.

You can choose whether or not to allow your child to be in this study. If you agree to allow your child to be in this study, you may withdraw you permission at any time without consequences of any kind. You are not waiving any of your or your child's legal rights if you choose to allow your child to be in this research study.

Who can answer questions I might have about this study?

In the event of a research related injury, please immediately contact the researcher listed below. If you have any questions, comments or concerns about the researcher, you can talk to the one of the UCLA Dissertation Chairs. Please contact:
Principal Investigator: Ian Guidera at 310-740-7921 and iguidera@ucla.edu
Dissertation Co-Chair: Robert Cooper, Ph.D. 310-27-2494 at cooper@gseis.edu
Dissertation Co-Chair: Diane Durkin, Ph. D. 310-825-0614 at durkin@humnet.ucla.edu
UCLA GSE&IS Moore Hall, Box 951521 405 Hilgard Avenue Los Angeles, CA 90095

If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please call the Office of the Human Research Protection Program at (310) 825-7122 or write to Office of the Human Research Protection Program, UCLA, 11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

SIGNATURE OF PARENT OR LEGAL GUARDIAN

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to allow my child to participate in this study. I have been given a copy of this form.

Name of Child	Name of School
Name of Parent or Legal Guardian	
Signature of Parent or Legal Guardian	Date

SIGNATURE OF PERSON OBTAINING PARENTAL PERMISSION

In my judgment the parent or legal guardian is voluntarily and knowingly giving permission for his/her child to participate in this research study.

Ian Andrew Guidera	310-740-7921
Name of Person Obtaining Parental Permission	Contact Number
	6-30-2011
Signature of Person Obtaining Parental Permission	Date

Youth Assent Form

University of California, Los Angeles
YOUTH (Ages 13-17) ASSENT TO PARTICIPATE IN RESEARCH
Principals Collaborating to Build Growth Mindset Norms:
School Culture Action Research

You are volunteering to participate in a research study conducted by Ian Guidera, M. Ed. and 2012 Ed. D. candidate at the University of California, Los Angeles. You were selected as a possible participant in this study because you attend a school where the principal is working in this study to build *Growth Mindset Norms* in the school culture. Your child's participation in this research study is voluntary

Why is this study being done?

This study is being done to provide principals with research-based tools for improving learning at their schools. By having a group of principals work together over six months to build positive school culture norms, their experience will provide a valuable guide for future leaders who wish to improve learning by building *Growth Mindset Norms* into their own school cultures. This study aims to empower leaders and Teachers to confront threats to learning and performance while constructing a school culture that promotes effort and growth.

What will happen if I take part in this research study?

Please talk this over with your parents before you decide whether or not to participate. We will also ask your parents to give their permission for you to take part in this study. But even if your parents say "yes" you can still decide not to do this.

If you volunteer to participate in this study, the researcher will ask you to do the following:

Participate in a focus group with several others students to answer questions together about their school experience this year in relation to the staff working to build Growth Mindset Norms into the school culture.

How long will I be in the research study?

Participation in the study will take a total of about one hour, starting just after the end of the school day

Are there any potential risks or discomforts that I can expect from this study?

There are no anticipated risks or discomforts expected from this study.

Are there any potential benefits if I participate?

You may benefit from the study by providing invaluable input on your experience this year to inform the work of your principal in continuing to improve the building of *Growth Mindset Norms* into your school's culture.

The results of the research may result in published articles and/or books that will serve as a guide for other principals who want to do similar work at their schools.

Will I receive any payment if I participate in this study?

You will receive no payment for your participation.

Will information about me and my participation be kept confidential?

Any information that is obtained in connection with this study and that identify you will remain confidential. It will be disclosed only with your permission or as required by law.
Confidentiality will be maintained by means of protecting your name, your parents' names, the name of your school and the name of all Teachers and other students with codes. This study is designed to empower school leaders and therefore all activities will be kept in the strictest of confidence. All data collected will be password protected on computers and also on hard drives that only the researcher has access to at all times. The data will be destroyed roughly 10 years from the completion of this study.

Withdrawal of participation by the investigator

The investigator may withdraw you from participating in this research if circumstances arise which warrant doing so. If you interrupt the quality of the focus group, you may be asked to leave. The investigator will make the decision and let you know if it is not possible for you to continue. The decision may be made either to protect your health and safety, or because you are holding back the progress of the focus group due to inappropriate behavior.

What are my rights if I take part in this study?

You may withdraw your assent at any time and discontinue participation without penalty or loss of benefits to which you were otherwise entitled.

You can choose whether or not you want to be in this study. If you volunteer to be in this study, you may leave the study at any time without consequences of any kind. You are not waiving any of your legal rights if you choose to be in this research study. You may refuse to answer any questions that you do not want to answer and still remain in the study.

Who can answer questions I might have about this study?

In the event of a research related injury, please immediately contact the researcher listed below. If you have any questions, comments or concerns about the researcher, you can talk to the one of the UCLA Dissertation Chairs.
Please contact:
Principal Investigator: Ian Guidera at 310-740-7921 and iguidera@ucla.edu
Dissertation Co-Chair: Robert Cooper, Ph.D. 310-27-2494 at cooper@gseis.edu
Dissertation Co-Chair: Diane Durkin, Ph. D. 310-825-0614 at durkin@humnet.ucla.edu
UCLA GSE&IS Moore Hall, Box 951521 405 Hilgard Avenue Los Angeles, CA 90095

If you wish to ask questions about your rights as a research participant or if you wish to voice any problems or concerns you may have about the study to someone other than the researchers, please call the Office of the Human Research Protection Program at (310) 825-7122 or write to Office of the Human Research Protection Program, UCLA, 11000 Kinross Avenue, Suite 102, Box 951694, Los Angeles, CA 90095-1694.

SIGNATURE OF STUDY PARTICIPANT

I understand the procedures described above. My questions have been answered to my satisfaction, and I agree to participate in this study. I have been given a copy of this form.

Name of Participant	School Name
Signature of Participant	Date

SIGNATURE OF PERSON OBTAINING ASSENT

In my judgment the participant is voluntarily and knowingly agreeing to participate in this research study.

Ian Andrew Guidera	310-740-7921
Name of Person Obtaining Assent	Contact Number
	6-30-11
Signature of Person Obtaining Assent	Date

Appendix K—Code Book

Lens 1: Norm Change	Lens 2: Actions	
High Norm Change	Selection-Driver	Selection-Barrier
Moderate Norm Change	Training-Driver	Training-Barrier
No Norm Change	Coaching	Coaching-Barrier
	Performance Assessment-Driver	Performance Assessment-Barrier
	Intervention	Intervention-Barrier
	Facilitative Administration-Driver	Facilitative Administration-Barrier
	Data System-Driver	Data System-Barrier
	Technical-Driver	Technical-Barrier
	Adaptive-Driver	Adaptive-Barrier

Appendix L—Baseline and Final Observation Norm Data

Norm Prevalence Bands and Norm Prevalence Change Bands

Norm Prevalence Bands		**Norm Prevalence Change Bands**	
Prevalence Band	**Observation Criteria**	**Change Bands**	**Change Criteria**
Highly prevalent	66 to 100 percent	*High norm prevalence change*	Increase least 4 individual growth mindset norm to *highly prevalent* and/or *moderately prevalent*
Moderately prevalent	33 to 65 percent	*Moderate norm prevalence change*	Increase 2 or 3 individual growth mindset norm to *highly prevalent* and/or *moderately prevalent*
Not prevalent	0 to 32 percent	*No norm prevalence change*	Increase no more than 1 norm in any prevalence band

Increase of Individual Growth Mindset Norms and Decrease of Individual Fixed Mindset Norms

	Increase of Individual Growth Mindset Norms and Decrease of Individual Fixed Mindset Norms			
	Growth Mindset Norms		Fixed Mindset Norms	
Principal	# Δ to H [a]	# Δ to M [b]	# Δ to M [c]	# Δ to N [d]
Arendt	0	0	0	0
Bordo	0	4	2	0
Cixous	6	2	1	2
Dabashi	0	2	1	0
Eagleton	0	1	1	3
Flecha	2	3	0	0
Giroux	0	0	0	2

[a] Number of individual norms that increased to *Highly Prevalent* (66 to 100 percent of observed cases).
[b] Number of individual norms that increased to *Moderately Prevalent* (33 to 66 percent of observed cases).
[c] Number of individual norms that decreased to *Moderately Prevalent* (33 to 65 percent of observed cases).
[d] Number of individual norms that decreased to *Not Prevalent* (0 to 32 percent of observed cases).

Net Norm Prevalence Change

Net Norms Change

	Growth Mindset Norms			Fixed Mindset Norms		
Principal	Δ # H [a]	Δ # M [b]	Δ # N [c]	Δ # H [a]	Δ # M [b]	Δ # N [c]
Arendt	0	-3	+3	+1	-1	0
Bordo	0	+4	-4	-2	+4	-2
Cixous	+6	-4	-5	-2	0	+2
Dabashi	0	+2	-2	+1	+3	-4
Eagleton	-1	-1	+2	-1	-2	+3
Flecha	+2	+2	-4	0	+6	-4
Giroux	0	-3	+3	-1	+1	0

[a] Change in how many Highly Prevalent Norms exist (66 to 100 percent of observed cases).
[b] Change in how many Moderately Prevalent Norms exist (33 to 65 percent of observed cases).
[c] Change in how many Not Prevalent Norms exist (0 to 32 percent of observed cases).

Number of Growth and Fixed Mindset Norms

Number of Growth and Fixed Mindset Norms Before and After Study Period

	Growth Mindset Norms					Fixed Mindset Norms						
Principal	B-H	F-H	B-M	F-M	B-N	F-N	B-H	F-H	B-M	F-M	B-N	F-N
Arendt	0	0	3	0	8	11	1	2	2	1	8	8
Bordo	0	0	3	7	8	4	2	0	0	4	9	7
Cixous	1	7	4	3	6	1	2	0	2	2	7	9
Dabashi	0	0	0	2	11	9	1	2	2	5	8	4
Eagleton	1	2	2	1	8	10	2	1	3	1	6	9
Flecha	0	2	1	3	10	6	1	1	1	7	9	5
Giroux	0	0	3	0	8	11	3	1	1	2	7	7

B-H: Baseline walks noted a Highly Prevalent Norm (observed in 66 to 100 percent of cases)
F-H: Final walks noted a Highly Prevalent Norm (observed in 66 to 100 percent of cases)
B-M: Baseline walks noted a Moderately Prevalent Norm (Observed in 33 to 65 percent of cases)
F-M: Final walks noted a Moderately Prevalent Norm (Observed in 33 to 65 percent of cases)
B-N: Baseline walks noted a Not Prevalent Norm (Observed in 0 to 32 percent of cases)
F-N: Final walks noted a Not Prevalent Norm (Observed in 0 to 32 percent of cases)

Individual Norm Results by Principal

Norm #1

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers provide academic challenges for all. Students taught to embrace/seek challenges and persist in the face of setbacks.			Teachers do not provide academic challenges for all. Students permitted to avoid challenges and give up easily.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	27	20	-7	73	80	+7	-	-	-
Bordo	25	63	+38	88	50	-38	-	-	-
Cixous	0	60	+60	100	60	-40	-	-	-
Dabashi	31	42	+11	69	58	-11	-	-	-
Eagleton	50	29	-21	83	86	+3	-	-	-
Flecha	29	40	+11	71	80	+9	-	-	-
Giroux	33	0	-33	83	100	+17	-	-	-

Norm #2

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students state, "Oh! I like a challenge!" or something similar.			Teachers and/or students state, "This is too hard. I give up," or something similar and is unaddressed.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	7	10	+3	7	0	-7	93	90	-3
Bordo	0	0	0	0	0	100	100	100	0
Cixous	0	20	+20	0	0	0	100	80	-20
Dabashi	12	17	+5	23	17	-6	65	75	+10
Eagleton	0	0	0	0	0	0	100	100	0
Flecha	0	20	+20	0	0	0	100	80	-20
Giroux	17	0	-17	17	0	+17	83	83	0

Norm #3

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students see/communicate that effort and practice are the path to mastery. Teachers and students acknowledge getting smart/intelligent from effort.			Teachers and students see/communicate that effort is fruitless due to ability and talent being innate. Teachers and students state, "I'm just not a math person," or something similar.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	20	20	0	7	10	+3	87	70	-17
Bordo	13	50	+37	0	0	0	88	50	-38
Cixous	0	80	+80	0	0	0	100	20	-80
Dabashi	23	8	+15	23	17	-6	62	75	+13
Eagleton	0	0	0	17	0	-17	83	100	+17
Flecha	0	20	+20	0	0	0	100	80	-20
Giroux	17	0	-17	33	17	-16	83	83	0

Norm #4

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers give incremental clues and cues when students are not there yet and during questioning. Students in cooperative settings help, but don't tell/do for others. Teachers never do something for a child that the child can do for themselves in a learning situation.			Teachers dispense information to students. Teachers give answers when students don't have them. Students in cooperative settings tell answers, allow copying or do the work for others. Teachers bail out students who struggle (by telling and/or doing the task for the student).			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	53	20	-33	60	60	0	33	30	-3
Bordo	63	50	-13	88	63	-26	13	25	+12
Cixous	67	80	+13	83	20	-63	33	0	-33
Dabashi	12	25	+13	19	83	+64	69	25	-44

Eagleton	67	57	-10	67	43	-24	83	43	-40
Flecha	29	80	+51	41	40	-3	71	60	-11
Giroux	17	0	-17	83	67	-16	100	100	0

Norm #5

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teacher models and teaches persistence. Teachers use wait time and encourage all to be patient during thinking opportunities. Students persist in thinking exercises until complete. Students are allowed to have ample think and do time during activities. Students seek help only after giving true effort.			Teacher models giving up. No or not enough thinking and/or doing time given. Teachers go with first student to come up with an answer or allows calling out (not unison calls). Students give up during thinking exercises. Students ask for help without true effort applied repeatedly to an activity.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	47	20	-27	40	70	+30	33	20	-13
Bordo	50	50	0	13	50	+37	38	38	0
Cixous	50	80	+30	17	40	+23	33	0	-33
Dabashi	23	17	-6	35	58	+23	54	33	-21
Eagleton	33	14	-19	50	14	-36	67	86	+19
Flecha	14	40	+26	29	80	+51	57	40	-17
Giroux	0	17	+17	83	67	-16	100	83	-17

Norm #6

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students praise and give feedback on effort and strategy Teachers give incremental and specific feedback during lessons and on student products Teachers and students communicate that they learn from criticism/feedback and are accepting of it			Teachers and students praise and give feedback on intelligence/smartness, correctness and/or behavioral compliance Teachers give right and wrong feedback mostly Teachers and students ignore/avoid giving and receiving useful criticism and feedback			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	27	0	-27	13	30	+17	73	70	-3
Bordo	25	38	+13	25	25	0	63	50	-13

Cixous	33	100	+67	33	0	-33	67	0	-67
Dabashi	31	8	-23	35	58	+23	46	42	-4
Eagleton	0	0	0	0	14	+14	100	86	-14
Flecha	0	20	+20	14	40	+26	100	80	-20
Giroux	17	0	-17	17	50	+33	83	100	+17

Norm #7

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers shows a dislike for mistakes Teachers models being wrong as being a big learning opportunity. Students are taught to embrace mistakes and the learning that comes from them. Students are made to feel comfortable being wrong in public.			Teachers promote a feeling of wrong being bad and/or to avoid being wrong in public. Students communicate that being wrong is bad (ridicule). Teachers and students hide being wrong (helpless techniques).			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	7	20	+13	7	30	+23	87	60	-27
Bordo	25	13	-12	0	0	0	75	88	+13
Cixous	0	80	+80	0	20	+20	100	20	-80
Dabashi	19	8	-11	19	17	-2	69	92	+23
Eagleton	0	0	0	0	0	0	100	100	0
Flecha	0	0	0	0	20	+20	100	80	-20
Giroux	0	0	0	33	0	-33	87	100	+13

Norm #8

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students show when others succeed they find learning and inspiration in their success.			Teachers and students show when others succeed they are threatened by their success.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	0	10	+10	0	10	+10	100	80	-20
Bordo	13	25	+12	0	0	0	88	75	-13
Cixous	33	40	+7	0	0	0	67	60	-7
Dabashi	4	8	+4	12	25	+13	85	75	-10
Eagleton	0	0	0	0	14	+14	100	100	0
Flecha	0	20	+20	0	0	0	100	80	-20
Giroux	17	0	-17	0	0	0	67	100	+33

Norm #9

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students see/communicate that assignments and assessments are about learning and personal growth.			Teachers and students see/communicate that assignments and assessments are about comparison/ranking and grades.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	7	30	+23	7	30	+23	87	60	-27
Bordo	0	38	+38	0	25	+25	100	38	-62
Cixous	17	60	+43	0	0	0	83	40	-43
Dabashi	4	0	-4	19	75	+56	81	42	-39
Eagleton	0	14	+14	50	29	-21	67	57	-10
Flecha	0	40	+40	0	0	0	100	80	-20
Giroux	17	0	-17	0	17	+17	83	100	+17

Norm #10

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers provide performance tasks and constructed response type activities.			Teachers give activities and measures designed to compare, rank and grade students.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	47	30	-17	0	30	+30	53	50	-3
Bordo	63	38	-26	0	38	+38	38	25	-13
Cixous	50	100	+50	17	20	+3	33	0	-33
Dabashi	12	50	+38	15	58	+43	77	0	-77
Eagleton	17	14	-3	33	29	-4	67	57	-10
Flecha	57	80	+23	0	40	+40	43	40	-3
Giroux	33	17	-16	0	17	+17	83	83	0

Norm #11

	Growth Mindset Norm			Fixed Mindset Norm			Missed Opportunities		
	Teachers and students recognize and/or celebrate personal growth. The school has systems to celebrate personal growth at least as much as celebrations of top achievers.			Teachers and students recognize and celebrate top achievers/achievement only. The school primarily has systems to reward top achievers.			The teacher either did not exhibit actions or artifacts that represent growth or fixed characteristics, and/ or a clear opportunity was missed to make a growth action.		
Principal	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.	Base %	Final %	Δ % Pts.
Arendt	13	10	-3	7	10	+3	87	80	-7
Bordo	13	13	0	0	13	+13	88	88	0
Cixous	17	100	+83	50	0	-50	33	0	-33
Dabashi	4	0	-4	27	42	+15	69	75	+6
Eagleton	0	0	0	17	0	-17	83	100	+17
Flecha	0	20	+20	0	40	+40	100	100	0
Giroux	0	0	0	0	17	+17	67	100	+33

Appendix M—Focus Group Protocols

Principal Focus Group Protocol

Thank you for all of your participation so far in my study. This is an important last step for your cohort to help future principals do this work too. The following questions will begin the process of you all agreeing on what works and what does not in building Growth Mindset Norms at schools like yours. I'd like to hear from everyone equally, so please monitor how much each person shares. If you don't want to answer a question, that is fine. Remember, once I have compiled all the data, you will get another chance to review the findings as a draft, vote on the findings, and give agreements and disagreements you might have. Are there any questions?

1) What do you perceive was the most effective action you took to build growth mindset norms at your schools?

2) What do you perceive was the least effective action you took to build growth mindset norms at your schools?

3) What drivers to change do you feel assisted in bringing about growth mindset norms at your schools?

4) What barriers to change do you feel inhibited bringing about growth mindset norms at your school?

5) How did working collaboratively with other principals help or hinder building growth norms at your schools?

6) What would you put in a guide book or road map for future principals who wish to bring about growth mindset norms at their schools?

Teachers Focus Group Protocol

"Thank you for joining my Teachers focus group today. Also thank you for your signed consent form. I am interested in finding out more about how your school and principal have worked to build Growth Mindsets into the school culture this year. I would love to hear from each of you equally on my short list of questions, so please allow each person to speak. If you do not want to answer a question I ask, that is fine too. You may also leave at any time if you'd like. As the consent form notes, this is voluntary, no names or positions will be recorded. When the study is published, all identities are protected and my assistant is typing in real time what you have to say. We are not voice recording. Are their any questions before I start?"

1) What do you perceive was the most effective action your principal took to build growth mindset norms at your school?

2) What do you perceive was the least effective action your principal took to build growth mindset norms at your schools?

3) What helped bring about growth mindset norms at your school?

4) What inhibited bringing about growth mindset norms at your school?

5) What would you put in a guide book or road map for future principals who wish to bring about growth mindset norms at their schools?

Student Focus Group Protocol

"Thank you for joining my student focus group today. Also thank you for your signed consent form. I am interested in finding out more about how your school and principal have worked to build Growth Mindsets into your school this year. I would love to hear from each of you equally on my short list of questions, so please allow each person to speak. If you do not want to answer a question I ask, that is fine too. You may also leave at any time if you'd like. As the consent form notes, this is voluntary, no names or grade levels will be recorded. When the study is published, all identities are protected and my assistant is only typing what you have to say. We are not voice recording. Are their any questions before I start?"

1) How has your school improved this year in a way that makes you and others more excited to learn?

2) What does it mean to have a growth Mindset?

3) What does it mean to have a fixed mindset?

4) What do you think was the most helpful thing your school did to build growth mindsets?

5) What do you think was the least helpful thing your school did to build growth mindsets at your school?

6) What did your school do to build growth mindsets that you think others should do also?

Appendix N—Strategies Used or Planned for Use by Leaders

- Use data collected to target development for individuals and for groups. (*Adaptive Leadership*, *Coaching, Training, Performance Assessment, Decision Support Data Systems*) (Executed by Dr. Cixous)

- Celebrate the "Failure of the Day." Build a culture school wide of great failures and mistakes made while people were trying to do their best. They should be used as examples of safe learning that opens up students and teachers to embracing the learning that comes from mistakes, instead of covering them up, or potentially missing an important opportunity to try something new in order to avoid failure. (*Training and Facilitative Administration*) (Mrs. Arendt and Mrs. Bordo plan to execute)

- Make meaningful announcements that reinforce the norms. Like announcements that celebrate personal growth daily and not absolute achievers. (*Training and Facilitative Administration*) (Mrs. Arendt and Mrs. Bordo plan to execute)

- Teach the *GROWTH AND Fixed Mindset Norm Framework* explicitly to the students. (*Training*) (Dr. Cixous and Dr. Flecha plan to execute)

- Teach the *GROWTH AND Fixed Mindset Norm Framework* explicitly to the parents. (*Training*) (Executed by Mrs. Arendt and Mrs. Bordo)

- Shift school promotion goals from punitive to personal growth related. (*Training and Facilitative Administration*) (Executed by Mrs. Arendt and Mrs. Bordo)

Appendix O—Data Collection Table

Research Question	Data Collection	Unit of Observation
What actions did principals take to build schoolwide norms of growth mindsets at their high minority, low-income schools, according to principals and teachers?	Reflection Journals Observation of Planning during RLP Sessions Pre and Post Site Visits Using the G/FMN Framework Teacher Focus Group	-Statements about the actions principal took regarding staff, teachers, students, and parents adopting growth mindset norms. -Plans made by principals to take action at their sites. -Actions made: Strategies/methods used, proven interventions applied, etc. -Follow up to actions already taken between sessions, changes in actions based on experience, etc. -Data exhibiting the presence of growth and/or fixed mindset norms. -Change in data exhibiting growth and/or fixed mindset norms. -Verification on principal actions
According to principals and teachers, what were the most effective actions (drivers) when building schoolwide norms of growth mindsets?	Reflection Journals Observation of Reflection and Planning during RLP Sessions Principal Focus Group and Individual Interviews Teacher Focus Group Member Check	-Statements about what principals felt was effective and why. -Statements in reflections on what was effective and suggest others in the cohort plan to use. -Statements on what principals found effective and suggest for future principals to use. -Verification of principal drivers described in interviews and focus groups. -Agreement or disagreement on draft findings on what was effective and why. Votes to support/comments on draft.
According to principals and teachers, what were the least effective actions (barriers) when building schoolwide norms of growth mindsets?	Reflection Journals Observation of Reflection and Planning during RLP Sessions Principal Focus Group and Individual Interviews Teacher Focus Group Member Check on Findings	-Statements about what principals felt was effective and why. -Statements in reflections on what was effective and suggest others in the cohort plan to use. -Statements on what principals found effective and suggest for future principals to use. -Verification of principal barriers described in interviews and focus groups. -Agreement or disagreement on draft findings on what was ineffective and why. Votes to support/comments on draft.

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