THE POWER OF TRUE CONNECTION:
CONNECTING STUDENTS AND EDUCATORS FOR STUDENT SUCCESS

A disquisition presented to the faculty of the Graduate School of
Western Carolina University in partial fulfillment of the
requirements for the degree of Doctor of Education

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February 2018

ACKNOWLEDGEMENTS

Renee Collins: I would like to express sincere appreciation to my disquisition partner, Brian Weaver, for his steadfast dedication to this endeavor and for his commitment to improving the lives of the students that we serve. I thank Dr. Janet H. Mason, my mentor, for her support and guidance; I am inspired by her determination to break down the barriers to public education. I am thankful to my parents, Tommy and Deborah Daniels, who encouraged my curiosity, fostered my love of learning, and provided the model for a strong work ethic. I dedicate this disquisition to my children and husband, who have been patient and understanding throughout this journey. To our daughter Blair: I appreciate your heart for others; this inspires me to love and care for others with the same intensity. To our son-in-law Jimmy: I thank you for your easy-going spirit that calms our entire family. To our son Blake: I have been challenged by your passion for social justice; I thank you for opening my eyes. To my greatest

companion, my husband Anthony: I could not have done this without you. Thank you for being a godly leader for our home. I am inspired by the work that you do to improve the lives of those formerly incarcerated. Your selfless actions speak louder than any words to communicate your compassion for the men whom you employ.

Brian Weaver: I gratefully acknowledge my research partner, Renee Collins, for her patience and careful attention about each dimension of this improvement initiative. I am especially grateful to my parents, Clyde and Helen Weaver, who were my first, most crucial teachers and who modeled what it means to be a Christian, the desire to work hard to give back to your community, and the importance of family. I am blessed to have parents like you. This disquisition is also dedicated to my twin sons, Judson and Cooper. You have been amazingly patient throughout this process, and I greatly appreciate your understanding about the time I have been away from family. Finally, I dedicate this disquisition to my lifelong partner, wife, and very best friend, Cameron Weaver, whose patience and love have been steadfast throughout this journey. Her unwavering and loving support helped me through this endeavor and continues until this day.

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PREFACE

Students who drop out of school prior to earning a high school diploma are in a disadvantaged position, socially and economically. Recognizing the negative consequences of dropping out, we sought to address this problem in our disquisition, the culminating experience in our doctoral program at Western Carolina University (WCU). The disquisition is a dissertation in practice that documents educational leadership development.

> A disquisition is a formal, problem-based discourse or treatise in which a problem of practice is identified, described, analyzed and addressed in depth, including methods and strategies used to bring about change and to assess whether the change is an improvement (Lomotey, 2017).

WCU joined the Carnegie Project on the Education Doctorate (CPED) in 2014 as the doctoral program was being re-engineered to prepare scholarly practitioners for improvement experiences in their own laboratories of practice. According to CPED, scholarly practitioners "blend practical wisdom with professional skills and knowledge to name, frame, and solve problems of practice" (Carnegie Project on the Education Doctorate, n.d., Design-Concepts section, para. 2). Throughout this disquisition, the authors will be referenced as scholar practitioners, as opposed to researchers.

Our improvement initiative of developing and implementing a school-based mentoring program focused on increasing school connectedness for at-risk students. This improvement initiative was piloted in two traditional high schools located within two western North Carolina school districts.

ABSTRACT

THE POWER OF TRUE CONNECTION: CONNECTING STUDENTS AND
EDUCATORS FOR STUDENT SUCCESS

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Western Carolina University (February 2018)

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High school dropouts continue to be a documented problem in the United States and
more specifically in North Carolina. Nationally, there were over 2.5 million dropouts
reported for the 2012 school year. In North Carolina, 10,889 dropouts were reported for
the 2015-16 school year, which was a 4.2 % decrease from the previous school year.
Robbins County Schools reported a dropout rate of 3.67%, which was an increase from
the preceding school year's rate. Tillman County Schools reported a rate of 1.83%, a
substantial improvement from the preceding school year's rate. These districts identified
that reducing the dropout rate was a high priority for both districts and would be the focus
of improvement science efforts. These efforts incorporated methodology that used short
cycles for evaluating change that guided revision and development of the improvement
initiative. Considering the strong impact of teacher-student relationships on student
success, the study focused on developing a comprehensive mentoring program for
enhancing student belongingness in school by pairing teachers with students at-risk of
dropping out. This was accomplished by establishing methods for identifying potential

dropouts and by designing and implementing a teacher-student mentor program.

Program evaluation measures included student attendance, discipline incidents, academic

performance, extracurricular participation, and school connectedness. This program was

implemented in one traditional high school in each district with a sample size of 18

students during the fall semester of 2017. The findings reveal that the school-based

mentoring program resulted in improvements for the measures of school connectedness,

grades, attendance, discipline incidents, and extracurricular participation.

THE POWER OF TRUE CONNECTION:

CONNECTING STUDENTS AND EDUCATORS FOR STUDENT SUCCESS

High school dropouts continue to be a documented problem in the United States and, more specifically, in North Carolina. Although there has been a decrease of about 10 percent in the Nation's dropout rate since 1967, there were over 2.5 million dropouts reported for the 2012 school year (Stark & Noel, 2015). The North Carolina Department of Public Instruction (NCDPI) reported a 4.2% decrease in student dropouts[1] for North Carolina public schools in their 2017 annual dropout report with a total of 10,889 student dropouts during this reporting period (Consolidated Data Report, 2017). The same report identified over 47% of North Carolina's school districts with increases in dropouts during the same period.

Robbins County Schools[2] reported a dropout rate of 3.67%,[3] which was an increase from the preceding school year's rate. Tillman County Schools reported a dropout rate of 1.83%, a substantial improvement from the preceding school year's rate

[1] The North Carolina Department of Public Instruction defines a dropout as "an individual who was enrolled in school at some time during the reporting year, was not enrolled on day 20 of the current year, has not graduated from high school or completed a state or district approved educational program, and does not meet any of the following reporting exclusions: transferred to another public school district, private school, home school, or state/district approved educational program (not including programs at community colleges); temporarily absent due to suspension or school approved illness; or death." (Public Schools of North Carolina, 2016, p. 3)

[2] Robbins County Schools and Tillman County Schools are pseudonyms for the actual school systems.

[3] The North Carolina Department of Public Instruction calculates the dropout rate as the total number of dropouts divided by the sum of students enrolled on the twentieth day of membership and the total number of dropouts. (Public Schools of North Carolina, 2016, p. 16)

of 3.13%. For many years, the dropout rates in both districts have exceeded the state

dropout rates. Understanding the negative consequences of dropping out, these districts

identified that reducing the dropout rate was a high priority for both districts and would

be the focus of this improvement science effort. Figure 1 shows dropout rates for the

United States, North Carolina, Robbins County Schools, and Tillman County Schools

("Consolidated Data Report," 2017; National Center for Education Statistics, 2017; and

Stark & Noel, 2015).

Reported Dropout Rates 2011-2016

	2010-11	2011-12	2012-13	2013-14	2014-15	2015-16
■ Robbins County	4.67	4.22	4.52	3.40	3.16	3.67
■ Tillman County	2.92	2.73	1.97	3.37	3.13	1.83
■ North Carolina	3.43	3.01	2.45	2.28	2.39	2.29
■ Nation	7.40	7.10	6.60	6.80	6.50	5.90
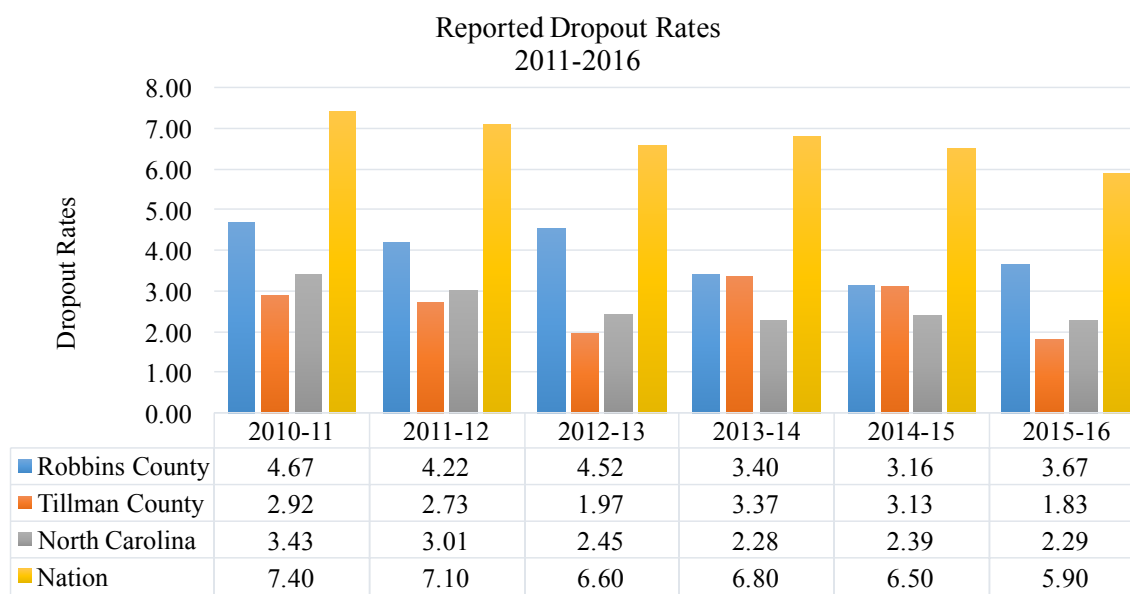
Figure 1. Reported dropout rates for the nation, state, Robbins County Schools, and Tillman County Schools.

BACKGROUND INFORMATION

The decision to drop out of high school is related to several negative consequences that include lower earned wages and higher rates of poverty (Rumberger, 2011). A student that chooses to drop out of high school and does not receive a high school diploma or equivalent will earn approximately $670,000 less in a lifetime than a person that has a minimum of a high school credential (Rouse, 2007). It is difficult for dropouts to secure employment due to the national decrease in unskilled manufacturing jobs, thus a reduced number of jobs are available for workers without a high school diploma (Levin & Belfield, 2007). For many dropouts, the inconsistency of job opportunities and reduced incomes will persist over their entire working lives, thus increasing poverty levels and the need for financial assistance (Sum, Khatiwada, McLaughlin, & Palma, 2009).

Researchers have identified numerous factors that, if not addressed, will increase the likelihood that a student will leave high school prior to graduation. In a technical report for the National Dropout Prevention Center, Hammond, Smink, Linton, and Drew (2007) identified that risk factors are typically categorized in four domains: individual, family, school, and community. Most often, dropouts are affected by multiple factors across multiple domains (Freeman & Simonsen, 2015; Hammond et al., 2007; Rumberger & Lim, 2008).

It is important to note that, when seeking to identify factors related to students dropping out, many educators and researchers place the problem within the students, their families, and their communities (Irizarry, 2009). This often results in blaming the victim. Gorski (2011, p. 154) describes that those using this deficit thinking model perceive the

problem as "located *within*, rather than as *pressing upon* disenfranchised communities."

Irizarry (2009, para. 2) contends that this "model stems from negative beliefs and

assumptions regarding the ability, aspirations, and work ethic of systematically

marginalized peoples." Educators and researchers often fail to recognize the positive

contributions that individuals, families, and communities make towards the success of

students.

   As factors contributing to the dropout issue are presented, one should keep in

mind that researchers do not endorse the deficit model and seek to improve the system

that perpetuates this ideology.

Factors Related to Dropping Out

   Individual Domain. The individual domain is comprised of significant risk

factors directly related to the individual student. Within this domain, factors typically fall

into the following categories: background characteristics; school performance; school

engagement; school behaviors; social attitudes, values, and behaviors; and early adult

responsibilities (Hammond et al., 2007). Research inconsistently links dropping out with

unalterable student background characteristics such as gender, race/ethnicity, and

immigration status (Chappell, O'Connor, Withington, & Stegelin, 2015; Hammond et al.,

2007). These characteristics are often included in stereotypical profiles of students who

drop out (Juergensen, 2016). Hammond et al. (2007) contend that the primary predictor

of dropping out in the student background category is whether or not a student has a

learning disability or emotional disturbance.

   One of the most consistent predictors of dropout is poor student performance

(Hammond et al., 2007). Low academic achievement—as indicated by test scores, core

subjects pass rate, and grade point average—and grade retention have been noted as primary factors in this category (Hammond et al., 2007). Researchers have noted correlations with dropping out for low academic achievement and retention at the elementary, middle, and high school levels (Hammond et al., 2007).

In addition to poor school performance, low school engagement is a strong dropout predictor. One indicator of low school engagement is poor attendance. The correlation of absenteeism and high school dropout has been made using attendance data from as early as first grade (Alexander, Entwisle, & Horsey, 1997) and has been reported for all grade bands—elementary, middle, and high (Hammond et al., 2007). Another indicator connected to school engagement is student educational expectations.[4] Expectations positively correlate with high school completion; thus, higher educational expectations are related to lower dropout rates (Rumberger & Lim, 2008). Hammond et al. (2007) identified numerous researchers who correlated low commitment to school with dropping out. Commitment to school is a complex concept encompassing issues such as satisfaction with school, motivation to do homework, motivation to earn high grades, and effort towards school. Lack of participation in extracurricular activities has been linked to higher risk of dropping out (Hammond et al., 2007; McNeal, 1995). Related to many of the school engagement factors is the sense of belonging or connectedness to school. A low sense of belonging is associated with a greater risk of dropping out (Christle, Jolivette, & Nelson, 2007; Hammond et al., 2007; Rumberger & Lim, 2008).

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[4] A student's educational expectation is often determined by asking the student "How far in school do you expect to go?" (Rumberger & Lim, 2008, p.35).

Student misbehavior and disciplinary problems at school correlate highly with dropping out (Christle et al., 2007; Hammond et al., 2007). Risk factors relating to the social attitudes, values, and behaviors of students have been identified, which include high-risk peer group, high-risk social behavior, and highly socially active outside of school (Hammond et al., 2007; Rumberger & Lim, 2008).

Some students who take on adult responsibilities are in jeopardy of not completing high school. Students with high numbers of hours worked per week and students with parental responsibilities are at higher risk of dropping out when compared with their peers (Hammond et al., 2007; Rumberger & Lim, 2008).

Family Domain. Home experiences and family background of students comprise the family domain. Low socioeconomic status and lack of parental involvement (Christle et al., 2007; Hammond et al., 2007; Smink & Reimer, 2009) are risk factors in this domain, along with high family mobility, low parental education level, and low educational expectations of parents (Hammond et al., 2007; Smink & Reimer, 2009). An additional risk factor in this domain is family disruption, which refers to changes occurring to the family unit, including changes in residence, divorce, illness or death of a family member, and additions to or reductions in those living in the household (Hammond et al., 2007).

School Domain. Risk factors in the school domain typically relate to school structure, environment, or policies. High student-teacher ratios, low student performance, negative school climate, and high rates of misbehavior are significant school factors (Christle et al., 2007; Hammond et al., 2007; Smink & Reimer, 2009). Also, this domain includes the factors of large school size, unsafe school

environment, perceptions of unfair discipline, low ratings of teacher support, lack of

relevant high school curriculum (Hammond et al., 2007; Smink & Reimer, 2009), and

high concentration of low socioeconomic status families (Christle et al., 2007; Smink &

Reimer, 2009).

Community Domain. Factors related to communities and neighborhoods include

high concentration of single-parent homes, high concentration of adults with low levels

of education, and high mobility (Hammond et al., 2007; Smink & Reimer, 2009).

Successful Interventions for Reducing Dropouts

In addition to a long list of identified risk factors for dropping out, researchers

have identified a large number of historical and current successful interventions targeted

at decreasing student dropouts. Researchers contend that school systems should avoid a

one-size-fits-all approach and should focus on the needs of the students who are dropping

out (Dynarski & Gleason, 2002). Research on the most effective dropout intervention

strategies focuses on the inherent value of each student and the importance of their

families and positive support (Montecel, Cortez, & Cortez, 2004). Research identifies

intervention strategies that focus on in-school implementation. These strategies include

academic support, behavior modifications, extended school day, counseling, summer

school, attendance incentives, extracurricular opportunities, and mentoring (Freeman &

Simonsen, 2015, Shannon & Bylsma, 2005, Hammond et al, 2007).

Academic support for struggling students is a successful intervention and may

include a combination of tutoring, homework assistance, experiential learning, and

academic skills enhancement that are provided by the teachers before, during, or after

school (Chappell et al., 2015; Christle et al., 2007; Freeman & Simonsen, 2014;

Hammond et al., 2007; Wilcox, Angelis, Baker, & Lawson, 2014). A vital component to academic support is challenging and engaging the students to grow academically and to connect learning to their personal experiences (Jerald, 2007). Additional successful interventions include high expectations for students (Christle et al., 2007; Hammond et al., 2007; Knesting & Waldron, 2006; Wilcox et al., 2014), relevant and adaptive teaching practices (Chappell et al., 2015; Christle et al., 2007), life skills development (Chappell et al., 2015; Hammond et al., 2007), structured extracurricular activities (Chappell et al., 2015; Ream & Rumberger, 2008), alternative schooling, and school/classroom climate improvements (Chappell et al., 2015; Freeman & Simonsen, 2014).

Behavior interventions and individualized learning have also been used successfully to improve outcomes related to dropout (Chappell et al., 2015; Christle et al., 2007; Freeman & Simonsen, 2014; Hammond et al., 2007). Behavior modification strategies that focus on a student's specific needs include behavior modification through positive behavior reinforcement and family focused therapy sessions (Hammond et al., 2007). These sessions focus on strategies to enhance family relationships, communication, and engagement in the life of the student and has been identified by many researchers as one of the most effective interventions (Chappell et al., 2015; Christle et al., 2007; Hammond et al., 2007; Wilcox et al., 2014).

Numerous successful interventions involve interpersonal relationships. Positive peer relationships can improve student outcomes related to dropping out (Hammond et al., 2007; Ream & Rumberger, 2008). Positive adult-student relationships (Christle et al., 2007; Hammond et al., 2007; Knesting & Waldron, 2006; Wilcox et al., 2014) are

important for students at risk of dropping out with teachers most often having the greatest impact on students (Knesting & Waldron, 2006). Mentoring programs (Chappell et al., 2015; Hammond et al., 2007) also are likely to be successful. These programs provide personal interactions that focus on building healthy relationships and may also include social support, personal support, and career guidance (Shannon & Bylsma, 2005). Mentoring programs provide a host of benefits to students and include receiving guidance about school issues, life problems, and potential college and career choices (Bruce & Bridgeland, 2014). The success of these programs is dependent on a sustained commitment by all stakeholders with focused attention on individual student needs (Shannon & Bylsma, 2005).

Legislative and Policy Support

Federal and state legislation have impacted dropout prevention, funding, and reporting. In 1965, the Elementary and Secondary Education Act (ESEA) directed attention to students who were dropping out of school prior to graduation (U.S. Department of Education, 1966). Twenty years later in 1985, North Carolina's General Assembly created a dropout prevention fund. This legislation was the first documented statewide effort for dropout prevention and was part of the Basic Education Program funding that was intended to increase services for students who were at risk of dropping out (Public Schools of North Carolina, 1984). An increased focus on students dropping out in North Carolina was taking place, but the state lacked reporting guidelines and frameworks for dropout data collection, with only estimated dropout counts being provided to NCDPI. This was remedied in 1995 with the introduction of a new state accountability program, the ABCs of Public Education (Public Schools of North

Carolina, 2012). Dropout rates were included in the accountability model as a component of high school growth for the first time in 2000-2001. This also coincided with the No Child Left Behind Act (NCLB) requirements (No Child Left Behind, 2002). NCLB was a revision and renaming of the ESEA of 1965. This data is still included in accountability reporting for North Carolina Public Schools.

The Dropout Prevention Act was a component of NCLB that provided funding to schools in support of dropout prevention for at-risk youth by reducing teacher-to-student ratios, increasing school counselor support, and providing mentors (U.S. Department of Education, 1966). In 2015, the latest revision to ESEA occurred that provided state agencies more control on educational legislative and policy decisions.

Additional North Carolina legislation impacting public education has been created in response to federal requirements and to address state-specific needs. In addition to the compulsory school attendance age mandates in N.C. General Statute 115c-378 requiring students between the ages of seven and 16 to attend school, more recent legislation includes driver's license revocation for students who drop out, additional funding for at-risk students, and alternative learning program options.

North Carolina House Bill 769 was intended to motivate students to complete high school. This 1997 legislation requires that a student's driving permit or license be revoked if a student passes less than 70% of their classes or drops out of school prior to the age of 18.

North Carolina G.S. 115C-47(32a) states that each local board of education shall establish at least one alternative learning program and guidelines for assigning students to these programs. Alternative Learning Programs (ALPs) are defined as services for

students at risk of truancy, academic failure, behavior problems, and/or dropping out of school (Public Schools of North Carolina, 2006). The North Carolina State Board of Education approved guidelines for schools to follow when implementing and modifying alternative learning programs in 1999. Prior to these guidelines, there were no state-mandated requirements or accountability for ALPs. In 2005, House Bill 1076 charged the North Carolina State Board of Education to adopt standards in lieu of policies for alternative learning programs to provide a framework for development of ALPs.

Session Law 2007-323 was passed in 2007 which created a one-time appropriation of $7 million for programs and initiatives targeted at students who were at risk of dropping out. Sixty systems, or 52% of LEAs were provided funding in the form of Dropout Prevention Grants. The intent stated was to focus attention and resources on innovative programs and initiatives that succeed in keeping students in school when other conflicting factors are pushing them to drop out (North Carolina General Assembly, 2007).

In 2013, Session Law 2013-360 outlined a dropout prevention pilot allowing for Hickory City Schools and Newton-Conover City Schools to raise the compulsory attendance age from 16 to 18 (North Carolina General Assembly, 2013). The pilot required that students who have not obtained a diploma remain in school until the end of the school year in which they turn 18 years of age. In 2016, Session Law 2016-94 added Robbins County Schools to the dropout prevention pilot (North Carolina General Assembly, 2016). The Robbins County Schools Board of Education implemented the pilot, effective August 1, 2017.

Local Education Agencies Support

      Robbins County Schools (RCS). Over the past several decades, Robbins County Schools also implemented numerous initiatives and employed an array of strategies to assist students in reaching high school graduation. In the mid-1990s, with a dropout rate of 4.6%, the school district offered a high school alternative program on the campus of the local community college. This program allowed students the opportunity to earn additional credits beyond the regular school day in an effort to assist students in getting back on track for graduation. In the late 1990s, an alternative middle school was established to serve a small number of at-risk middle school students. Drastic increases in the dropout rate occurred in 1999 and 2000, with rates reported as 5.8% and 9.2% respectively. In 2001, an alternative high school was established for the district. The alternative middle school was relocated to the same campus as the new alternative high school. This school was designed to be an alternative to the traditional high school setting for students at high risk of not completing high school. The district's C-Stop program, which was funded by the North Carolina Governor's Crime Commission, was also housed at the alternative school. Students who were suspended from school could attend C-Stop without interruption of learning time. Steady declines in the dropout rate were reported between 2001 and 2005 with the 2005 rate being 4.8%. Dropout rates then increased with rates of 7.3% in 2007 and 6.3% in 2008.

      In 2008, the district received a Dropout Prevention Grant. Funds were used to begin a Restart program for students who had dropped out or were highly at risk of dropping out. Qualifying students were immediately enrolled at the alternative school with increased supports. Students were also given the opportunity to enroll in high-

interest community college courses. During the 2008-09 school year, the district hired a graduation coach to serve the alternative school and the traditional high schools. Dropout rates decreased to around 4.5% through 2013.

In 2012-13, the district hired two additional graduation coaches. Each of the three graduation coaches was assigned to serve at one of the district's traditional high schools and is responsible for providing intensive support for students at risk of dropping out. Coaches work collaboratively with administrators, teachers, counselors, the district social worker, and families to provide needed assistance. All three graduation coaches serve high school students at the alternative school. Funding for these positions have varied through the years to include federal Priority Schools and local funds. Dropout rates improved through 2015, when a district low of 3.2% was reported.

The alternative school currently serves approximately 135 students in grades six through 12. Students may be assigned to the alternative school by the superintendent. Students may also be referred to the school by the student's Individualized Education Plan (IEP) team or the traditional high school's Student Services Management Team (SSMT). Referrals to the school SSMT can be made by the parent, guardian, teacher, counselor, school administrator, or other professional with knowledge about the student.

Tillman County Schools (TCS). Numerous informal strategies and practices have been attempted at the local level to assist students in persisting toward graduation. However, there are several intentional policy, program, and funding initiatives that have taken place within TCS. These include the establishment of an alternative learning school, applying for grants to fund graduation coaches, allocating local funding to provide additional social worker and school counselor positions, and revising several

local Board of Education (BOE) policies that address at-risk students and student success.

The establishment of an alternative high school occurred during the 1997-98 school year with the goal of serving fifty at-risk students as a strategy to reduce the increasing dropout rate for Tillman County Schools. Dropout rates increased from 2.3% in 1991 to a rate of 3.6% in 1997 in Tillman County Schools. Over the past 20 years, the alternative high school's student population has steadily increased to an average current student enrollment of ninety-five students. During this time the dropout rates ranged from a high of 5.0% in 2007 to a low of 1.8% in 2015. Students may be referred to the alternative school by the superintendent, high school administration, juvenile court counselor, or by parent request. Through the use of various grants, additional staffing positions have been added to support the increasing population of at-risk students. These grants include a Juvenile Crime and Prevention Council grant that provides funding for two staff positions in an attempt to help reduce recidivism with court involved students. In addition to these positions, three graduation coaches serving TCS's high schools are partially funded through the Workforce Innovation and Opportunity Act (WIOA) grant. These graduation coaches work to establish relationships with at-risk students and advocate for each student when schedule modifications, alternative school placement, and a differentiated diploma may be needed.

During the 2015-16 school year the local policy on graduation requirements, policy 3460, was evaluated and revised in an attempt to better meet the needs of at-risk students. The policy revision increased the flexibility at the traditional high schools by offering a differentiated high school diploma. Prior to this policy revision, the alternative high school was the only school that could allow a student to graduate with a state

minimum graduation requirement diploma. The differentiated diploma is not a fast-track program, but is designed for students who are having difficulty meeting the 28-credit graduation requirement established by the local board of education. Upon recommendation by the principal, review of a district-level committee, and approval by the superintendent or designee, a student may be eligible to graduate and receive a differentiated diploma upon satisfying the minimum state requirements of 22 credits for graduation. Tillman County Schools now offers a differentiated diploma program at each high school, including the alternative school, for students who are at risk of dropping out of school or who have faced significant barriers to completion of the traditional high school diploma program.

THEORY OF IMPROVEMENT

Increasing school connectedness or belongingness has been identified as a

successful strategy for reducing dropouts (Christle et al., 2007; Fredricks, Blumenfeld, &

Paris, 2004; Knesting & Waldron, 2006). School connectedness "is the belief by students

that adults in the school care about their learning and about them as individuals" (Blum,

2005, p. 1). A strong component of connectedness is the feeling of a sense of

belongingness in the school. The concept of connectedness emphasizes the importance

of a positive school climate and of fostering positive relationships among students at risk

of dropping out and teachers, administrators, parents, and peers. Low school

connectedness is associated with less favorable student outcomes and high school

connectedness is associated with more positive outcomes (Monahan, Oesterle, &

Hawkins, 2010). Christle and associates corroborate this finding, explaining, "students

who feel a sense of belonging and are connected to school are less likely to drop out of

school" (2007, p.333). Karcher & Santos (2011) contend that the most successful

interventions to improve adolescent connectedness focus on four major areas. All of

these areas emphasize dyadic connections and include school, family, friends, and self.

Gordon, Downey, and Bangert (2013) provide evidence that a well-designed

school-based mentoring program can make a positive difference during the first year of

implementation in a student's academic achievement, number of discipline referrals, and

school attendance. In this study, the instrument used to collect data regarding students'

perceptions of connectedness was The Hemingway: Measure of Adolescent

Connectedness Survey. This instrument was designed to measure a student's perceptions

of connectedness to four main dyadic connections of school, family, friends, and self

(Karcher & Sass, 2010). Mentoring programs are one form of intervention that can enhance all of these areas by directly engaging the student (Karcher & Santos, 2011).

The findings of Davis, Chang, Andrzejewski, and Poirier (2014) support previous findings (Davis, 2003; Ryan & Deci, 2000) that during early adolescence students need to feel both supported by their teachers and a sense of school belonging. Reform efforts focused on improving teacher-student relationships via small learning communities. Students' perceptions of sense of school belonging and sense of teacher support were measured by the Psychological Sense of School Membership Scale (PSSM; Goodenow, 1993). According to Booker (2004), the PSSM is a widely used measure for school belonging. The PSSM is comprised of 18 items rated on a 5-point Likert scale. It is recommended for use with students ages 12 to 18 years and grades six through 12. Goodenow (1993) reported the internal consistency reliability for PSSM as .88, using Cronbach's Alpha. Davis et al. (2014) found similar reliability results with Cronbach's Alpha ranging from .86 to .89.

Considering the strong impact of teacher-student relationships, this study developed a comprehensive program for enhancing student belongingness in school by connecting teachers with students at risk of dropping out. An established framework for this improvement initiative was developed using the driver diagram represented in Figure 2.
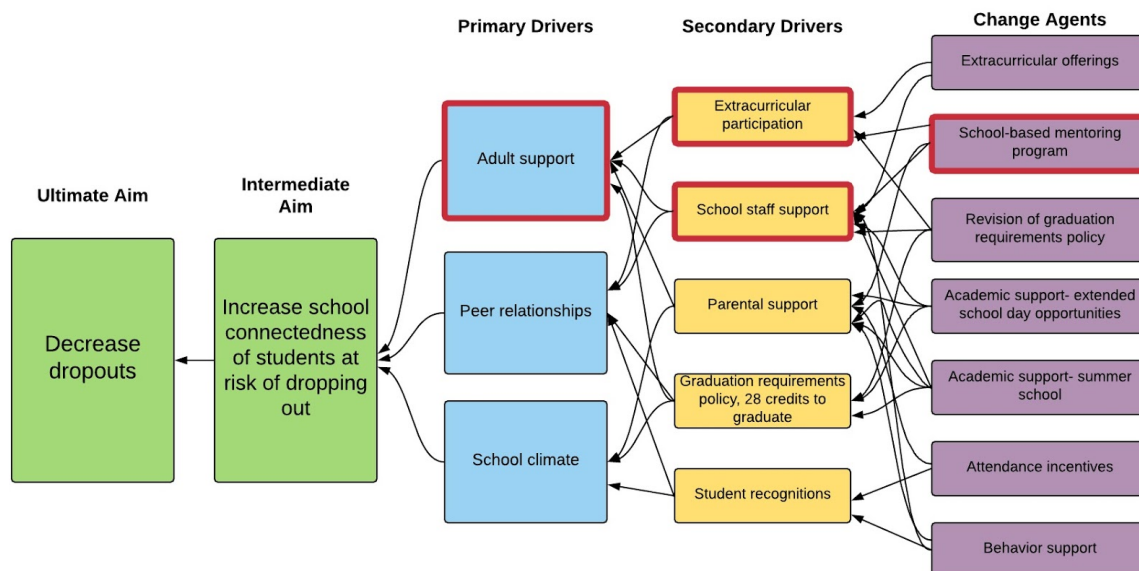
Figure 2. Driver diagram depicting theory of improvement for reducing high school dropouts.

The ultimate aim for the development of a school-based mentoring program was to decrease high school dropouts. Improvement of primary drivers such as policies, components, and structures can assist an organization in moving closer to reaching the ultimate aim (Park & Takahashi, 2013). The specific change idea implemented with the mentoring program addressed the primary driver of adult support and the secondary drivers of staff support and extracurricular participation.

Recognizing the impact of family, school, and community on student persistence in school, we explored ecological theories as a means to better understand the problem of high school dropouts. Bronfenbrenner's (1979) Ecological Systems Theory was chosen to provide the theoretical framework for this study. This theory argues that an entire ecological system must be considered when evaluating a person's development. His theory is based on five environmental levels: microsystem, mesosystem, exosystem,

macrosystem, and chronosystem (see Figure 3). These levels or layers identify relational influences on an individual's development.

The *microsystem* refers to the immediate environment containing individuals most closely engaged with the student. This layer is where face-to-face interactions take place. Microsystem relationships may include family, friends, and teachers. The *mesosystem* is comprised of the cross-relationships between two or more individuals or groups in the microsystems (Leonard, 2011). These cross-relationships may include interactions between parents and teachers, as well as peers and family. The *exosystem* consists of relationships in which the student is not directly involved. These relationships, however, have an impact on student development. The relationship occurring between the home and a parent's workplace is one example. The *macrosystem* encompasses the cultural aspects of the previous levels including the attitudes and ideologies. The *chronosystem* emphasizes changes that occur over the course of life. An example is the death of a parent and the ongoing impact of this occurrence.
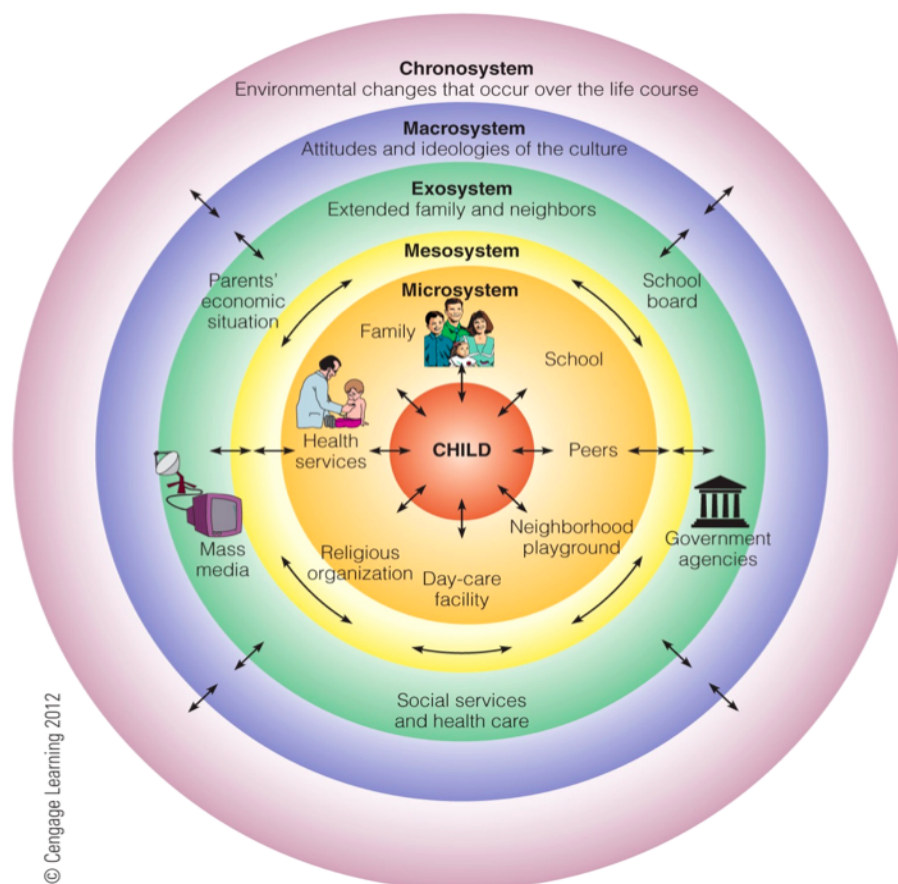
Figure 3. Bronfenbrenner's Ecological Systems Theory. Reprinted from *HDEV 2nd ed.* (p. 13), by S. A. Rathus, 2012, Belmont, CA: Wadsworth Cengage Learning. Copyright 2012 by Nelson Education Ltd. Reprinted with permission.

By focusing on the microsystem and mesosystem layers, Bronfenbrenner's theory provides a fitting framework to investigate teacher-student relationships.

This improvement initiative was piloted in one traditional high school in each district with a sample size of 18 students (see Appendix A for conceptual framework). A small sample size was used since change in education often fails due to attempting a large-scale implementation and neglecting to determine why the program was not successful (Bryk, Gomez, Grunow, & LeMahieu, 2015). The design included three

major components: developing guidelines for the school-based mentoring program, identifying mentors and students for participation in the program, and providing professional development for teacher mentors focused on how to increase school connectedness for at-risk students. This improvement science design allowed for progress monitoring and adjustments throughout the implementation.

Several mentoring programs were studied during the design process. One program that had documented positive results was the Check & Connect Student Engagement Model. Students are assigned a mentor called a *monitor* who, as the program name implies, checks on and connects with the student. Engagement with school and learning is assessed by monitoring student attendance, behavior, and grades. The monitor connects with students by intervening individually with support from school personnel, community services, and families (University of Minnesota, n.d.). The U.S. Department of Education's What Works Clearinghouse Intervention Report (2015) recognized this program as having positive effects on students staying in school. In a randomized controlled trial examining the effects of Check & Connect on Minneapolis high school students, Sinclair, Christenson, and Thurlow (2005) found that the dropout rate for participating students was lower relative to their non-participating peers. The chi-square test showed there was significance, $X^2(1)=7.24$, $p=.007$, with an effect size of 0.58.

Another mentoring program with documented positive results was the Achievement Mentoring Program (AMP). This program focused on praising a student's positive behavior to enhance their feelings about school. AMP places high emphasis on providing praise to the student at the beginning of each mentor-mentee meeting. This

school-based mentoring program provides interventions for students who are demonstrating low academic performance, behavior problems, and substance abuse (Clarke, 2009).

While there are several established mentoring programs that show promising results for keeping students in school (U.S. Department of Education, 2017), the Teacher and Student Connect (TASC) school-based mentoring programs in Robbins and Tillman Counties were based primarily on the Check & Connect program. This program focuses on factors that have been identified by researchers as occurring in high success schools: understanding the important role of the teacher in student persistence in high school, emphasizing teacher beliefs regarding at-risk students, teacher support for students, demonstrated teacher caring, and relevant teaching practices (Knesting & Waldron, 2006; Schulz & Rubel, 2011). Additionally, professional development for mentors focused on providing teacher mentors with the knowledge and skills to aid students in increasing their sense of belongingness and connectedness. Implementation of the mentoring program through an improvement science methodology ensured that focus on specific program tasks and the development of organizational structures to support the desired changes were present as essential components for success (Bryk et al., 2015).

IMPROVEMENT METHODOLOGY

Improvement science is a methodology that incorporates short cycles for evaluating change that will guide revision and development of an improvement program. The improvement initiative aim was to decrease high school dropouts by increasing student belongingness in school by connecting teachers with students at risk of dropping out. We predicted that effective teacher-to-student mentoring strategies would decrease high school dropouts by increasing school connectedness.

Langley et al.'s (2009) Model for Improvement provided the structure for the improvement process. The model is made up of three fundamental questions that guide improvement efforts and the Plan-Do-Study-Act (PSDA) cycle (see Figure 4). The model takes a team approach to the improvement process by establishing a design team. The team is comprised of key individuals in an organization that will help develop and guide improvement initiatives. The work of the design team begins with answering the question "What are we trying to accomplish?" The team's response to this questions identifies the aim of the improvement work. Measures for improvement are determined by asking "How will we know that the change is an improvement?" Finally, the improvement initiative is identified by answering "What change can we make that will result in improvement?"
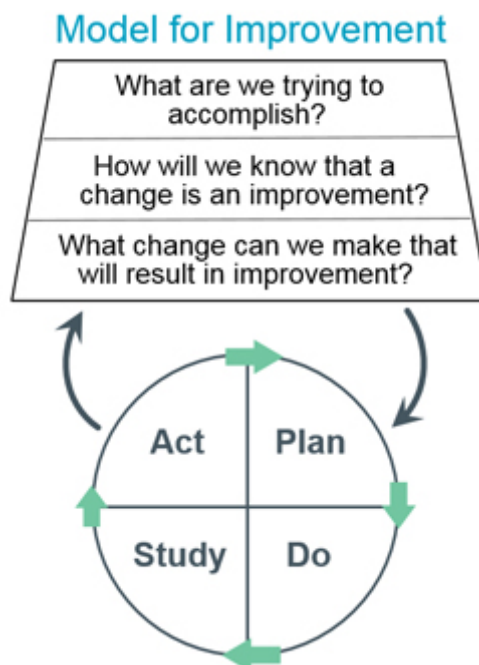
Figure 4. Model for Improvement. From *The Improvement Guide: A Practical Approach to Enhancing Organizational Performance 2nd ed.* (p. 24), by G. J. Langley, R. D. Moen, K. M. Nolan, T. W. Nolan, C. L. Norman, and L. P. Provost, Belmont, CA: San Francisco: Jossey-Bass. Copyright 2009 by G. J. Langley, R. D. Moen, K. M. Nolan, T. W. Nolan, C. L. Norman, and L. P. Provost. Reprinted with permission.

A design team was established in each school district in the fall of 2016. The design teams met multiple times during the 2016-17 school year to select and design the improvement initiative by answering the three fundamental questions. Each school district's design team was comprised of a district-level administrator, school-level administrator, school counselor, graduation coach, social worker, and teacher. These individuals were chosen to serve on the team due to their knowledge of the school and district, their expertise in working with high school students, and their capacity to bring about change in the organization.

Question One: What are we trying to accomplish? The teams agreed that the ultimate aim was for all students to graduate from high school. The intermediate aim was increased school connectedness for students at-risk of dropping out. The short-term aims

were improved student attendance and grades, increased extracurricular participation, reduced discipline incidents, and continuing participation in the mentoring program.

Question Two: How will we know that the change is an improvement? Outcome, process, and balancing measures of intermediate and short-term aims will be used to determine if the change is an improvement. School connectedness will be assessed using the PSSM questionnaire. Data for student attendance, grades, discipline incidents, extracurricular participation, and mentoring program participation will be collected and analyzed. Process measures will include mentor and student surveys. An administrator survey will be used as a balancing measure to determine if the implementation of the change had an adverse impact on the students, teachers, and/or school.

Question Three: What change can we make that will result in improvement? As previously described, the improvement initiative consisted of developing and implementing a school-based mentoring program focused on increasing school connectedness for at-risk students.

After answering these questions, the team was able to move forward with the implementation of the improvement change via Plan–Do–Study–Act (PDSA) cycles. These cycles provided a structure for iterative testing for the continuous improvement process (Langley et al., 2009). The four-step PDSA cycle includes developing a plan to test (Plan), implementing the plan (Do), observing and evaluating the outcome (Study), and determining what changes are needed (Act).

To evaluate the effectiveness of our improvement initiative, a concurrent transformative mixed method design was employed, characterized by the simultaneous

collection of qualitative and quantitative data (Creswell, Plano Clark, Gutmann, & Hanson, 2003). Qualitative data was collected by administering student and staff surveys and conducting staff focus groups. Quantitative data collected included attendance reports, academic performance, discipline referrals, extracurricular participation, and several measures of school connectedness. The data were collected prior to the TASC program implementation and at three-week intervals. The final data collection took place at the end of the fifteenth week.

During the planning stage, the design team was charged with developing criteria for selecting students to participate in the TASC program; offering input for program implementation; and providing suggestions for process, outcome, and balancing measures for the research.

Method for Student Selection

A list of students at risk of dropping out was generated from each school's PowerSchool At Risk Report. PowerSchool is the student management data platform provided to public school systems by NCDPI. The At Risk Report compiles student attendance and grades in order to generate a list of students failing or in danger of failing courses. In order to select student participants, additional student data was collected and analyzed by the design team. Additional data included prior and current academic performance, attendance history, discipline referrals, and extracurricular participation. After design team deliberations and consultation with high school and feeder middle school principals, a prioritized list of potential student participants was generated for each school.

Appropriate measures were taken to obtain approval from both school districts, consent from the parents (see Appendices B and C), and assent from the students (see Appendices D and E) for student participation in the program. All information remained confidential. Randomly assigned identification numbers, rather than names, were used. Students were not identified by first or last name in any publication of the study's results. Pseudonyms were used for direct quotes. Parents could remove their children from the mentoring program at any time. Students could discontinue their participation in the program at any time, without penalty of any kind. Students could also refrain from answering any items or questions that caused them discomfort. Student participation was voluntary and students had the right to withdraw consent or discontinue participation in this research at any time without penalty.

Method for Mentor Selection

School staff members were introduced to the mentoring program during school faculty meetings held during the spring semester of 2017. Online surveys were distributed to all staff members to determine TASC participation willingness and mentoring availability. The survey results, in addition to recommendations by the design team, assisted in selecting staff mentors for the program. Staff identified as being a good fit for the program were invited to attend an after school meeting to review the purpose of the TASC program and to determine if they were committed to being mentors for students at risk of dropping out. The next steps included sharing a timeline for implementation (see Figure 5), providing professional development, and providing the staff members with additional resources.

	November 2016	May 2017	August 2017	December 2017
Design Team Established	■			
Survey Potential Mentors		■		
Determine Student and Staff Participants		■		
Professional Development of Mentors			■	
Program Implementation			■	
Finalize Data Collection				■

Figure 5. School-based mentoring program timeline.

Professional Development

Professional development for mentors was held in August 2017. The professional development included effective communication strategies, talking points for initial contacts, weekly contact agendas, additional mentoring resources, and training on the at-risk indicators to be evaluated during the mentoring program. Teachers earned continuing education units (CEUs) for the professional development that could be applied to their license renewal. Appropriate measures were taken to obtain consent for mentor participation in the program (see Appendices F and G).

Implementation began during the first week of school and at that time mentors started establishing relationships with their assigned students. Each mentor was responsible for scheduling weekly mentor sessions with his or her mentee. Session topics included attendance, academic performance, missing school assignments, and available extracurricular opportunities. Additional meeting times were scheduled based on each student's needs.

A measurement system for the improvement initiative was developed that aligned with the theory of improvement. As Bryk et al. (2009) recommend, measures must be developed for the improvement "aims, its primary drivers, and for all of the specific changes that are being introduced and tested" (p. 103). These measures were used in formative assessment within each PDSA cycle and summative assessment of the improvement initiative.

The baseline data collected at program implementation for each participating student included the number of absences, number of discipline referrals, numerical grade for each course taken, number of extracurricular activities in which the student participated, and responses from the Psychological Sense of School Membership questionnaire. The number of absences, grades for each course, and discipline referral data were collected from the 2016-17 PowerSchool database. Baseline data for extracurricular activities were obtained from each school's 2016-17 yearbook, which documented student participation in sports, academic clubs, performing arts, professional clubs, publications, student government, and honor societies via member rosters and pictures. The PSSM questionnaire (see Appendix H) was distributed to each participating student during the first month of school. The PSSM was selected as the measure of school connectedness or belonging based on its wide use since development by Carol Goodenow in the 1990s. The 18-item scale is recommended for use with students aged 12 to 18 years and has high internal consistency reliability of .88, using Cronbach's Alpha (Goodenow, 1993). Goodenow administered the PSSM to students from three different schools and used contrasted groups validation procedures. She reported validation analyses that support the construct validity of the instrument.

At the conclusion of each three-week period, PowerSchool data were collected for each student to include the current number of absences, number of discipline referrals, and the numerical grade for each enrolled course. In addition, the number of extracurricular activities that the student participated in and the number of mentor sessions conducted were collected using a mentor log (see Appendix I), which was adapted from the Check & Connect monitoring form (Christenson, Stout, & Pohl, 2012). The mentor log captured both formal and informal communications with students that were made each month. The number of contacts was used as a measure of program execution. Formal communications were those in which the mentor and mentee discussed student progress and interventions. Informal communications were less formal interactions, such as seeing each other between classes or in the lunchroom.

For preliminary analysis, descriptive statistics were calculated for student demographics, attendance, discipline referrals, grades, extracurricular participation, and student participation in the program. This included calculations of mean, standard deviation, variance, and range, along with creation of frequency tables and charts. The Statistical Package for the Social Sciences (SPSS) software was used to perform these calculations.

The implementation team, consisting of the design team and all mentors, met at the conclusion of the three-week cycle. The meeting used a focus group format and was audio recorded. The purpose of the meeting was to discuss student progress and for the mentors to provide feedback on the program.

At the conclusion of week six, a mentor survey and a student survey (see Appendices J and K) were administered in order to gather data regarding the processes of

the improvement initiative. Student survey data also provided evidence to validate

information reported on mentor logs. These surveys each contained five open-ended

questions addressing the frequency and content of mentor-mentee meetings. The survey

responses and mentor log data were used to strengthen the validity of the study through

triangulation. Creswell (2012) states that triangulation "is the process of corroborating

evidence from different individuals, types of data, or methods of data collection in

descriptions and themes in qualitative research" (p. 259). Holistic inductive coding was

used in the analysis of the survey data. Analysis occurred simultaneously with data

collection as recommended by Miles, Huberman, and Saldana (2014).

The implementation team met after the end of the sixth week to study the

descriptive statistics for the outcome and process measures. For this first PDSA cycle

and for subsequent cycles, the goal was for students to show improvements in at least two

of the student outcome measures. If at least 25% of students did not reach this goal, the

design team considered revision to the initiative. Based on findings, the design team

adapted, expanded, or abandoned components of the TASC program.

The iterative design of the improvement initiative included three PDSA cycles

(see Table 1). Data collection continued throughout each PDSA cycle. At the end of

each three-week period, descriptive statistics were calculated for collected data and

included any new measures for which data had been collected. At the conclusion of

weeks nine and 15, an additional survey was provided to the school principal as a

balancing measure. The data collected in this survey focused on whether or not the

implementation of the mentoring program had an adverse impact on the student, teacher,

and/or school. Holistic inductive coding was used in the analysis of these data (see

Appendix L). The PSSM questionnaire was also administered at the end of weeks nine

and 15. Thus, school connectedness was measured three times using PSSM. Due to the

ordinal nature of the dependent variable of connectedness and because the data were not

normally distributed, Friedman's ANOVA was run via SPSS to determine differences

between groups across multiple test attempts.

Table 1

Data Collection and Analyses by PDSA Cycle

	PDSA Cycle 1			PDSA Cycle 2		PDSA Cycle 3
	Start	3 Weeks	6 Weeks	9 Weeks	12 Weeks	15 Weeks
Data Collection	**Outcome (Baseline Data)** -Demographic -Attendance -Discipline -Grades -Extra-curriculars -PSSM	**Outcome** -Attendance -Discipline -Grades -Extra-curriculars -Student Participation in Program -Focus Group	**Outcome** -Attendance -Discipline -Grades -Extra-curriculars -Student Participation in Program -Focus Group **Process** -Mentor Survey -Student Survey	**Outcome** -Attendance -Discipline -Grades -Extra-curriculars -Student Participation in Program -PSSM -Focus Group **Balancing** -Administrator Survey	**Outcome** -Attendance -Discipline -Grades -Extra-curriculars -Student Participation in Program -Focus Group **Process** -Mentor Survey -Student Survey	**Outcome** -Attendance -Discipline -Grades -Extracurriculars -Student Participation in Program -Focus Group -PSSM **Balancing** -Administrator Survey
Data Analyses		**Outcome** -Descriptive Statistics	**Outcome** -Descriptive Statistics **Process** -Inductive Coding	**Outcome** -Descriptive Statistics	**Outcome** -Descriptive Statistics **Process** -Inductive Coding	**Outcome** -Descriptive Statistics -Friedman's ANOVA (Connectedness) -Paired Samples T-Test

A summative assessment of the improvement initiative was conducted at the end

of week 15. Analyses results from all collected data were reviewed. This summative

assessment assisted the participant researchers in determining how the intervention

process went and if the intervention achieved the desired outcomes.

IMPROVEMENT PROCESS

Program implementation occurred simultaneously in both school districts. While the implementation processes in each laboratory of practice were similar, some differences occurred. Therefore, process descriptions will be distinguished by school district.

Localized Context

Robbins County Schools. Located in the foothills of western North Carolina, Robbins County Schools serves over 8,000 students in 10 elementary schools, three traditional middle schools, three traditional high schools, one early college high school, and one alternative school that serves students in grades 6 through 12. The scholar practitioner met with the school district's superintendent in the fall of 2016 and was granted permission to conduct the research study at Foothills High School (FHS), one of the district's traditional high schools.

Student enrollment at FHS during the 2017-18 school year was 844 with 76.4% white, 15.3% African American, 5.3% multiracial, 1.3% Asian, and 1.7% American Indian. Five percent of students identified as Hispanic. Seventeen percent of the students have been identified as exceptional and receive services outlined in an IEP.

Design team. As described previously, the Robbins County design team was established in the fall of 2016. The team met three times during the 2016-17 school year to design the FHS mentor program. Langley et al.'s (2009) Model for Improvement was used to guide the improvement initiative. The team consisted of the following individuals: FHS assistant principal, FHS school counselor, FHS classroom teacher, FHS

graduation coach, RCS alternative school principal, RCS social worker, and RCS district administrator (scholar practitioner).

At the team's initial meeting, the scholar practitioner provided background information regarding the dropout problem. FHS dropout data for 2015-16 was reviewed. These data provided demographic, academic, and disciplinary information about each student who dropped out during that school year. Other student data included were retention history, school transfers, course rigor, extracurricular participation, and interventions. The three fundamental questions were discussed and a timeline for the research was provided.

The second team meeting, also in the fall of 2016, began with the group reading "Cultural Deficit Model," a short article by Jason Irizarry (2009) that addressed deficit thinking. This led to a discussion about the topic. Team members were challenged to examine their own perspectives and assumptions about the causes of student underachievement, particularly that of minority and economically disadvantaged students. Team members were reflective and open when discussing the topic. This discussion was an appropriate lead-in to a more in depth analysis of the FHS 2015-16 dropout data. The team determined student selection criteria and identified intervention strategies that should be included in the program. Responses for the three fundamental questions were solidified.

The design team met again in spring of 2017. The scholar practitioner shared the disquisition proposal presentation with the group. It was confirming for the group to see their work coming to fruition. Student selection criteria were reviewed and modified by the group. Suggestions for pairing mentors and mentees were made by group members.

Key components of the Check & Connect mentor program were provided by the scholar practitioner. A timeline for program implementation was finalized.

Mentor selection. In late May 2017, the scholar practitioner met with Foothills staff members during faculty meetings held each period. An overview of the mentoring program was provided including mentor expectations and research details. The following day, an interest survey was sent via email allowing staff to indicate their interest in participating as a mentor (see Appendix M). Thirteen staff members expressed interest by completing the survey. In early June, the scholar practitioner met with all interested staff members to provide additional information about the program and to answer specific questions. The mentor consent form (see Appendix F) was provided and thoroughly reviewed at this meeting. Eleven staff members committed to participating in the program. The group selected two days in early August for mentor training. One of the teachers resigned from employment at the school during the summer, leaving 10 staff members to mentor the desired number of 10 students. Four English teachers, one math teacher, one career and technical education teacher, two science teachers, one media coordinator, and one instructional technology facilitator comprised the mentor group. All mentors identify as white. Table 2 indicates mentor demographic information including years of experience in education.

Table 2

FHS Mentors at a Glance

Mentor	Gender	Race	Role at School	Years of Experience in Current Role	Years of Experience in Education
Mentor 9	F	W	Teacher	4	4
Mentor 10	M	W	Teacher	17	19
Mentor 11	F	W	Teacher	5	17
Mentor 12	M	W	Teacher	3	4
Mentor 13	F	W	Support Personnel	4	15
Mentor 14	F	W	Teacher	18	18
Mentor 15	F	W	Teacher	15	21
Mentor 16	M	W	Teacher	4	4
Mentor 17	M	W	Teacher	6	7
Mentor 18	F	W	Support Personnel	2	6

Student selection. Twenty students, 10 rising freshmen and 10 rising sophomores

for the 2017-18 school year, were selected in late May 2017 by the Robbins design team

to be considered for participation in the school-based mentoring program. The scholar

practitioner used the design team's prioritized list of potential students to determine the

order of parents and guardians to be contacted to obtain initial verbal consent. The first

nine parents/guardians that were contacted enthusiastically provided verbal consent for

participation with one guardian of a rising freshman requesting that a rising sophomore

sibling be included in the program. Since this sibling was on the list provided by the

design team, the sibling was included in the program, which brought the total number of

participating students to the desired number of 10. Of the students participating, five

students were rising freshmen, five were rising sophomores, four students were female,

six students were male, four students were African American, five students were white,

and one student multiracial. Two of the students were identified as students with disabilities in the exceptional children program and one student was identified as academically and intellectually gifted.

The scholar practitioner then arranged to meet with students individually to explain the mentoring program and to invite students to participate. During the first week of June, meetings were held at the feeder middle school with all five of the rising freshmen. The student assent and parent consent forms were sent home with each student, along with a self-addressed stamped envelope for easy return. Because of the high school exam schedule, the scholar practitioner was unable to meet with the rising sophomores. These meetings were postponed until students returned to school in August.

Over the summer, only one parent returned the assent and consent forms. The scholar practitioner made additional phone calls to the parents of rising freshmen. No other forms were mailed in over the summer.

The scholar practitioner individually met with the five sophomores on the third day of school. It is important to note that these five students were technically still classified as freshmen because they did not obtain sufficient credits during the freshman year to advance to the 10th grade. Student assent and parent consent forms were sent home with each student. Students were asked to return the forms to the school receptionist via the provided envelope as soon as possible. The scholar practitioner also met a second time with the four freshmen whose parents had not returned the forms over the summer. Additional forms were sent home with the students to be returned to the school receptionist. By the end of the second week of school, only three students had both consent and assent forms on file. During the third week of school, nine students

who had appropriate consent were paired with their mentors. The final student's paperwork was returned during the sixth week of school.

Professional development. In late June, the scholar practitioner participated in Check & Connect Mentor Training at the University of Minnesota at St. Paul. The comprehensive training took place over two days. Expenses for the training were partially funded by a Western Carolina University grant provided by the Kathleen Jorissen Educational Leadership Program Endowment.

Mentor training for Foothills staff was held in early August and focused on providing teachers with the knowledge and skills to aid students in increasing their sense of belongingness and connectedness. The two-day training, based on the Check & Connect program, addressed factors as previously discussed. Six of the 10 mentors were able to attend the early August training. The remaining four mentors were trained during the first week of school.

Tillman County Schools. Tillman County Schools is located in western North Carolina and is comprised of four elementary schools, two middle schools, two traditional high schools, and one alternative high school. The scholar practitioner met with the system's superintendent in the fall of 2016 and was granted permission to conduct the research study at Jarvis High School (JHS), one of the traditional high schools in the school system.

Student enrollment at JHS during the 2017-18 school year was 324 with 97.8% white, 1.5% multiracial, and 0.7% American Indian. Four percent of students identified as Hispanic. Seventeen percent of the students have an IEP to help them develop intellectually, physically, emotionally, and vocationally.

Design team. The Tillman County design team was established in the fall of

2016. The team met during the 2016-17 school year to design the JHS mentor program.

The team consisted of the following individuals: JHS principal, JHS school counselor,

JHS classroom teacher, JHS graduation coach, TCS middle school principal, and TCS

district administrator (scholar practitioner).

At the team's initial meeting, the scholar practitioner provided data for JHS high

school dropouts. This data included student demographic, academic, and disciplinary

information for students who had recently dropped out. School culture and school

climate were discussed along with the impact that positive adult relationships may have

on students who are considering dropping out of high school.

The design team met again in the spring of 2017. The scholar practitioner shared

the improvement initiative proposal with the group. Suggestions for mentee selection

criteria, mentor selection, and pairing mentors with mentees were made by design team

members. The meeting concluded with the review of the proposed timeline and a brief

discussion on the next steps to be taken.

Mentor selection. Jarvis High School staff was introduced to the research study

during a regularly scheduled staff meeting in April 2017. During the staff meeting the

scholar practitioner presented an overview which included specific details on mentor

selection, mentee selection, professional development, data collection instruments, data

collection timeline, and data analysis. The scholar practitioner informed the staff that a

mentor interest survey would be distributed via school email following the meeting and

that the purpose of the survey was to identify staff that were interested in participating as

a school-based mentor for the 2017-18 school year (see Appendix M). Eight staff

responded to the survey and indicated that they would volunteer to be mentors. These

eight staff members included two world language teachers, one exceptional children

teacher, one career and technical education teacher, one school counselor, one school

resource officer, and one graduation coach. Table 3 indicates mentor demographic

information including years of experience in education.

Table 3

JHS Mentors at a Glance

Mentor	Gender	Race	Role at School	Years of Experience in Current Role	Years of Experience in Education
Mentor 1	F	W	Teacher	12	12
Mentor 2	F	W	Teacher	18	20
Mentor 3	M	W	Support Personnel	18	0
Mentor 4	F	W	Support Personnel	10	10
Mentor 5	F	W	Teacher	17	17
Mentor 6	F	W	Teacher	10	10
Mentor 7	F	W	Support Personnel	2	2
Mentor 8	F	W	Teacher	9	9

The scholar practitioner met with the mentors prior to the beginning of the 2017-

18 school year to answer questions and provide mentor consent forms (see Appendix G).

During this meeting details regarding professional development were discussed, and it

was determined that the teacher workdays in August 2017 would be the best time to

conduct professional development for the mentor group.

Student selection. In May 2017, 20 students, 10 rising freshmen and 10 rising

sophomores, were selected and prioritized by the Tillman design team as potential

candidates for the study. The scholar practitioner began contacting potential participants

and their parents during the summer break of 2017 with the goal of having 8 student participants, one for each mentor. Initial contacts were positive, with participants and parents indicating that they would agree to be part of the study for the 2017-18 school year. In June, a tragic event occurred resulting in one of the contacted student participants dying in a traffic accident. The accident involved multiple students from JHS and the scholar practitioner paused contacting additional potential candidates due to this event. The scholar practitioner resumed contacting potential participants in August and individually met with the students during the first three days of school. During the individual meetings, the scope of the research study was discussed, time was provided to answer questions, and assent and consent forms were distributed (see Appendices E and C, respectively). In addition to student meetings, multiple phone calls were made to the potential participants' parents to provide them with information and to answer questions. During the next five school days, eight assent and consent forms were returned to the scholar practitioner. The scholar practitioner made multiple phone calls, conducted home visits, and engaged with students and their parents at community events to help facilitate the return of these forms. Participating students included three freshmen and five sophomores. Four students were male and four were female. Seven students were white and one was American Indian. Four of the students were identified as students with disabilities in the exceptional children program and no students were identified as participating in the academically and intellectually gifted program.

Professional development. Mentor training for Tillman staff was held in early August and focused on providing teachers with the knowledge and skills to aid students in increasing their sense of belongingness and connectedness. The one-day training was

offered on multiple dates to accommodate for staff meeting schedules. As in Robbins County, the training was based on the Check & Connect program.

Implementation

As outlined in Table 1, program implementation consisted of three PDSA cycles. In this section, each phase of the PDSA cycles will be described in detail. As part of the continuous assessment of the improvement initiative, formative assessment results will be explained for each cycle.

PDSA Cycle One

Robbins County Schools. PDSA cycle one was completed during weeks one through six of implementation. These weeks coincided with the first six weeks of school.

Plan. The majority of planning for PDSA cycle one occurred during the 2016-17 design team work. During week one of implementation, the scholar practitioner met with all mentors along with available design team members to finalize plans for program implementation. Mentors were directed to their training materials and personal notes for recommendations regarding discussion points for their initial meetings with students. The mentor logs and implementation timeline were reviewed. An overview of baseline data was provided (see Table 4). Student participants ranged in age from 13 to 15. Five students were retained in ninth grade after the 2016-17 school year, and two additional students had been retained prior to high school. Mentors were given observer rights in the learning management system, which allowed mentors to see real-time assignments and grades for their mentees. During this cycle, mentor-mentee sessions began, the first administration of the PSSM questionnaire occurred, the implementation team met once, and baseline and outcome data were collected.

Table 4

FHS Student Baseline Data

Student	Gender	Age	Race	Grade Level	Previously Retained	Exceptionality	Absences 2016-17	Discipline Incidents 2016-17	Extracurricular Participation 2016-17	Core Subjects Ave. R1 2016-17	Core Subjects Ave. R2 2016-17	# Courses Failed 2016-17	High School Credits Earned 2016-17
Ted	M	14	W	8	No	EC	0	0	No	74	68	5	
Adele	F	15	W	9	Yes		92	1	No	3	-	4	4
Katrina	F	15	B	8	Yes		10	0	No	66	55	3	
Adam	M	15	M	9	Yes		17	10	No	33	47	4	4
Alexis	F	15	W	8	Yes	EC	10	0	No	76	80	1	
Eric	M	16	B	9	Yes		15	2	No	26	18	7	1
Brenda	F	16	B	9	Yes		10	3	No	40	40	6	2
Tyson	M	13	B	8	No	AIG	8	4	No	24	52	6	
Curtis	M	15	W	9	Yes		13	8	No	53	-	-	3
Berry	M	14	W	8	No		6	7	No	58	39	6	

Note: F = Female; M = Male; B = Black; M = Multiracial; W = White; EC = Exceptional Children; AIG = Academically/Intellectually Gifted. A dash indicates the data was not obtained.

Do. Formal mentor-mentee sessions began during week three. Also during week three, the scholar practitioner distributed the PSSM online survey to students by providing the Qualtrics survey link via email. One student completed the survey on the following day. One week after the email was sent, no additional students had completed the survey. A reminder email was sent to students, and mentors were encouraged to remind students of the survey. After one additional week, the scholar practitioner visited the school and administered the survey to the remaining nine students.

The first implementation team focus group meeting was held during week six, three weeks after the initial mentor-mentee meetings began. Seven mentors were present along with four design team members. The scholar practitioner facilitated the meeting. Mentors shared successes and challenges associated with the program. Multiple mentors reported that their students expressed positive attitudes and excitement about participating in the program. Several mentors shared that their greatest challenge was finding time to meet with their mentees. One mentor, Hudson, reported that of five scheduled meetings, his mentee Tyson only showed for two. Shane, who had connected very quickly with his student, asked for recommendations for working with his student to set academic goals. The scholar practitioner directed mentors to the training materials for the Check & Connect goal setting guidelines. The guidelines provided specific questions to ask students in order to assist them in discovering their desired goals, steps for SMART (Specific, Measureable, Attainable, Realistic, Timely) goal development, action plan recommendations, and tips for overcoming barriers to achieving goals (Christenson et al., 2012, pp. 118-119).

Study. To determine if the program was being executed fully, the number of mentor-mentee contacts was examined. Data pulled from the mentor logs indicated that at the end of the third week only three mentors had formally met with their mentees, and eight mentors had done so by the end of the sixth week. All mentors had met with their mentee at least informally by the end of the sixth week. The expectation was for mentors to conduct one formal meeting with their students each week. Only one mentor met this expectation during weeks four through six. On average, 1.8 total contacts were made per

student during weeks one through three, and 2.8 contacts per student were made during

weeks four through six (see Table 5).

Table 5

FHS Measures for Weeks 1-3 and Weeks 4-6

| | Weeks 1-3 | | Weeks 4-6 | |
Measure	*N*	*M (SD)*	*N*	*M (SD)*
Mentor Contacts[a]	10	1.80 (2.82)	10	2.8 (1.40)
Grade Average[b]	10	61.23 (20.99)	10	64.20 (19.46)
Absences[c]	10	0.93 (1.06)	10	1.65 (0.77)
Discipline Incidents[d]	10	0.20 (0.42)	10	0.40 (0.70)

[a]The total Mentor Contacts (formal and informal) for each three-week period. [b]The calculated average of all course grades. [c]The total number of absences for each three-week period. [d]The total number of discipline incidents for each three-week period.

The means of student grade averages, absences, and discipline incidents were

calculated at weeks three and six (see Table 5). Slight increases in these measures were

noted. In addition to these calculations, each student's outcome measures at week six

were compared to baseline data from 2016-17 or to week three data. Outcome measures

included: number of courses passed by students, number of courses with improved

grades, attendance, extracurricular participation, discipline incidents, and mentoring

program participation. During program planning, the design team determined that if at

least 25% of students did not have improvement in at least two measures, the design team

would consider revision to the initiative. At week six, 50% of students showed

improvement in at least two outcome measures.

Baseline data for school connectedness were reviewed using PSSM responses. The PSSM was shown to be reliable in our sample (*N*=18) with an alpha level of α=0.85, which is above the accepted 0.70 (Tanner, 2012). A composite score for each student was calculated by averaging the responses to the 18 items. It is important to note that five negatively worded items were reverse-coded, as suggested by Goodenow (1993). This composite score represented an overall sense of school membership or school connectedness score. A higher composite score correlates with a higher sense of belonging. Item responses ranged from 1 to 5 with 1 being *Not at All True* and 5 being *Completely True*. The mean of FHS students' (*N*=9) PSSM composite scores was *M*=3.50, *SD*=0.64. Composite scores for individual students were examined. Two students had scores below the scale midpoint of 3.00 with 2.28 being the lowest. Goodenow (1993) suggested 3.00 as a possible "tipping point" (p. 89) with scores below this number reflecting more negative responses. Six students had scores between 3.00 and 3.99 and two students had scores above 4.00 with 4.39 being the highest. One student did not take the PSSM because the assent and consent forms had not been obtained at the time of administration.

Act. Based on contact data from the mentor logs, increasing formal mentor-mentee communications to once per week was determined to be the focus for the second PDSA cycle. Administrative support was sought to assist mentors in finding optimal times for meeting with mentees. The assistant principal provided suggestions, on a case by case basis, for scheduling meeting times.

Tillman County Schools. Like the PDSA cycle in Robbins County Schools, the first improvement cycle was completed during weeks one through six of implementation. These weeks also coincided with the first six weeks of the 2017-18 school year.

Plan. Planning for this cycle was completed with the assistance of the implementation team during the 2016-17 school year. Mentor training was completed during the teacher workdays prior to the beginning of the 2017-18 school year. During this training, data collection instruments, suggested meeting topics, and a timeline were provided to mentors. An overview of baseline data was also provided (see Table 6).

Table 6

JHS Student Baseline Data

Student	Gender	Age	Race	Grade Level	Previously Retained	Exceptionality	Absences 2016-17	Discipline Incidents 2016-17	Extracurricular Participation 2016-17	Core Subjects Ave. R1 2016-17	# Courses Failed 2016-17	High School Credits Earned 2016-17
Jason	M	15	W	9	Yes		23	0	No	74	1	7
Alan	M	14	W	8	No	EC	22	1	No	-	0	-
Kate	F	16	W	9	No	EC	15	0	Yes	69	2	6
Toby	M	15	W	8	Yes	EC	3	0	Yes	78	1	-
Andy	M	15	W	9	No		18	0	No	68	0	8
Amy	F	16	W	9	Yes		14	0	No	78	3	5
Jodi	F	15	W	8	Yes	EC	1	0	No	80	0	-
Carrie	F	15	AM	9	Yes		25	0	Yes	69	0	8

Note: F = Female; M = Male; AM = American Indian; W = White; EC = Exceptional Children. A dash indicates the data was not obtained.

Do. During week one of this cycle the scholar practitioner met individually with students to review the study, discuss participation in the study, answer questions, and collect student assent and parent consent forms as described previously in the student selection section. In addition, the scholar practitioner asked students additional questions during these meetings, including:

- Do you have a staff member that you speak to on a regular basis?

- What do you like to do in your spare time?

- What extracurricular activities do you participate in?

- What are your plans after high school?

Responses to these questions, analysis of student schedule, and input from TASC mentors were used to determine the student-mentor assignments.

During week two of this cycle, the scholar practitioner notified each mentor of their student assignment via email and included the following suggestions to cover during the first contact with their assigned student. Formal mentor-mentee sessions began during week three.

1. Determine the best way for the student to communicate with you and exchange email addresses with them.

2. Determine the best time of the school day to connect with the student and establish a plan for meeting. Opportunities before school, during lunch, home base time, or after school are preferable. Try to minimize meeting with the student during instructional time.

3.   Encourage your student to check their email at least once a day and remind them that the scholar practitioner will be sending out a survey to them in the near future.

During week three of this cycle, the first administration of the PSSM was distributed to each student via email with directions for completion. Qualtrics software allowed the scholar practitioner to monitor which students had completed the PSSM. Seven out of eight students completed the questionnaire during the first five days. The scholar practitioner emailed the remaining student a reminder to complete the PSSM without success. One week later, the scholar practitioner visited JHS and met with the remaining student. The student used an unoccupied office space and completed the PSSM questionnaire during the last 10 minutes of her lunch block. During the school visit, the scholar practitioner also met with JHS's principal to confirm the meeting location for the first focus group meeting.

The scholar practitioner emailed focus group members a reminder for the first focus group meeting, scheduled during the fourth week of the improvement initiative. The meeting was held immediately after school with four members in attendance. The scholar practitioner began the meeting by asking the mentors to share progress in making contacts with their respective mentees. Missy was the first mentor to respond and stated that:

I wish that my child had this opportunity when he was in school. There are several kids in our school that go unnoticed every day. My son just went through school unnoticed, and he really never made a connection with anyone. Having a

mentor is going to be great for these kids. So far, it has been easy to meet with

my student.

A difficulty that was noted was trying to establish a regular meeting time that worked for

both mentor and mentee. Jenny explained that:

I had a difficult time getting my mentee to show up for our meetings. She has

missed two meetings so far, and I need to do a better job trying to catch her during

class changes to check in with her. I have never had this student in class, and it

has been difficult trying to get to know her.

Similar to the concerns raised in Robbins County, multiple mentors shared that the most

difficult part of mentoring was finding a time to meet with their mentee. The scholar

practitioner offered to buy lunch for each mentor/mentee pair and use this time together

as a strategy to get to know their mentees. The focus group members were receptive and

the scholar practitioner scheduled lunch to be provided for each mentor and mentee the

following week.

Process metrics were shared with the focus group and the group acknowledged

that it is difficult to have a true measure of how students are performing since school has

only been in session for few weeks. No suggestions for change in the initiative were

provided by the focus group after reviewing measures of academic performance,

discipline, and attendance. It was determined that no changes to the PDSA cycle were

needed and that the TASC program would continue unchanged until the next focus group

meeting in three weeks.

The meeting concluded with the collection of mentor logs. Mentors that were not

present in the focus group meeting were contacted the following day, and mentor logs

were collected by the scholar practitioner visiting each mentor before school, during lunch, during their planning period, or after school.

      Study. Like in Robbins County Schools, Tillman County Schools evaluated data collected from the mentor logs for PDSA cycle one. Each mentor indicated at least one formal meeting during the first three weeks of the program. On average, mentors reported 5.71 contacts per students during weeks one through three and 5.28 contacts per student during weeks four through six (See Table 7).

Table 7

JHS Measures for Weeks 1-3 and Weeks 4-6

	Weeks 1-3		Weeks 4-6	
Measure	*N*	*M (SD)*	*N*	*M (SD)*
Mentor Contacts	7	5.71 (2.29)	7	5.28 (2.43)
Grade Average	8	76.72 (5.96)	8	76.06 (7.64)
Absences	8	1.50 (1.49)	8	1.00 (1.19)
Discipline Incidents	8	0.00 (0.00)	7	0.13 (0.35)

      The means of student grade averages, absences, and discipline incidents were calculated using SPSS software. A slight improvement in the number of absences was noted. Like Robbins County Schools, each student's outcome measures at week six were compared to baseline data from the 2016-17 school year or to week three data. These measures for individual students included number of courses passed, number of absences, extracurricular participation, discipline incidents, and mentoring program participation. The program would be determined a success should a minimum of 25% of students have

improved in at least two of these measures. At week six, 43% of students had shown improvement in at least two outcome measures.

Baseline data for school connectedness was reviewed for Tillman County Schools using PSSM questionnaire responses. The mean of JHS students' (N=8) PSSM composite scores was M=3.74, SD=0.65. An evaluation of composite scores for the eight individual students was conducted with scores ranging from 2.83 to 4.94. One student scored below the scale midpoint of 3.00 with a 2.83. Five students scored between 3.00 and 3.99, and two students scored above a 4.00.

Act. Comments included in mentor logs indicated a need to network with their student's teachers to help them make up missed work and improve their academic performance. Mentors indicated that additional support was not needed to facilitate this change.

Prior to ending PDSA cycle one, a mentor notified the scholar practitioner that she had resigned from Tillman County Schools and planned on working a 30-day notice. The scholar practitioner arranged to meet with the student that this mentor had been working with to discuss his thoughts about continuing in the program. The student, Alan, stated:

I like my mentor Ms. Withers, but I don't want you to find another mentor for me. I am doing good in my classes and don't really need anyone to help me right now. I may be moving anyway.

Thus, PDSA cycle one concluded with the resignation of a mentor from Tillman School System and the transfer of a mentee to a school in Ohio.

PDSA Cycle Two

  Robbins County Schools. PDSA cycle two was completed during weeks seven through 12 of implementation. These weeks coincided with the second six weeks of school.

  Plan. Conclusions from PDSA cycle one led to the PDSA cycle two goal of increasing formal mentor-mentee communications to once per week. During the 2016-17 planning year, the design team was under the impression that mentors would have available one day per week during a flexible period in which to meet with their mentees. When the school year began, scheduling changes resulted in mentors being available to meet only every other week during a flexible period. Administrative support was sought to individually assist mentors in finding optimal times for meeting with mentees. Plans were made to administer four surveys during this cycle: Student Survey, Mentor Survey, Administrator Survey, and PSSM. The implementation team was scheduled to meet twice. Outcome data would continue to be collected.

  Do. The Student Survey and Mentor Survey were distributed in week nine. All students had completed the survey within one week. Seven mentors had completed their respective survey within one week, two additional mentors did so within two weeks, and one mentor did not complete the survey.

  The implementation team met via videoconference during week nine. Eight mentors and three design team members were present. Mentors shared successes and challenges associated with the program. Two mentors reported that they see their mentees daily, with mentees intentionally passing by their respective mentor's classroom each day. Another of the participating mentors, Cole, was a wrestling coach. Two

mentees, not paired with Cole, were working out with the wrestling team and would officially be on the team this school year. Neither of these students had participated in school sports prior to this year.

Several mentors expressed concern regarding mentee behaviors that were negatively impacting student achievement: not completing assignments, sleeping in class, and inappropriate behaviors resulting in discipline incidents. Considering these concerns, the team discussed ways of helping students identify problems. The Five Whys technique (Ohno, 1988) for finding the root cause of a problem and the Check & Connect five-step plan for problem solving (Christenson et al., 2012) were reviewed. The mentors were reminded that it was not their task to solve problems for their mentees; their task was to help students develop the skills needed to solve their own problems. The team reviewed the criteria for classifying indicators as high-risk for a student. Initial high-risk criteria had been established during the August professional development. The criteria established the threshold for consideration of intensive interventions. Following are examples of high-risk thresholds for a given month: three absences, four tardies to school or class, one skipping incident, two discipline referrals, and two or more grades of D or one or more F. Updates were made to the high-risk thresholds for out-of-school and in-school suspensions, reducing the threshold to one incident of each. Each mentor was asked to work with the mentee to identify one high-risk indicator on which to focus. Basic interventions for all students and intensive interventions for students with high-risk indicators were referenced in the training materials (Christenson et al., 2012). A suggestion was made to add dates to the mentor log each month to improve the usability of the form. The meeting concluded by setting a date for meeting in three weeks' time.

During week 12, the Administrator Survey was distributed and quickly completed by the principal. Also during week 12, the PSSM questionnaire was distributed to students for the second administration. Three students completed the survey very quickly; however, they did not provide their names in survey responses. No other students completed the survey within the week of distribution. During the second week after distribution, the scholar practitioner administered the survey to students at the school with nine students completing the survey. One student, Curtis, had not been to school since week nine. This student had reported to his mentor and teachers that he was moving out of state. No request for student records had been made by a receiving school.

The third implementation team focus group was held during week 12. Six mentors and three design team members were present. Results from the Mentor Survey were discussed, including responses regarding additional resources that mentors yet needed. Three mentors indicated that additional time was one such needed resource. Given the importance of meeting the expectation of one formal meeting per week, this topic comprised a great deal of the discussion during this focus group. Each mentor who was experiencing difficulty finding time to meet with a mentee shared specific details about scheduling issues. The group brainstormed solutions and offered suggestions for each mentor. Some solutions included accessing before school time for bus riders and after school time for car riders.

Even for one mentor, Wendy, who had established an ideal time for meeting with her student, Berry, there did not seem to be enough time.

My time issue is not when will I see him. My time issue is I don't have enough time to talk about the things that I want to talk about because sometimes we get

distracted. We end up talking about other things and, oh gosh, we didn't talk about anything academic.

The assistant principal immediately responded that "I still think those conversations are productive. These are kids that don't have adult role models. They are starving for it, so that's awesome." He continued by saying that:

> I don't know each of your mentees personally, but I do know Barry, and this program has had an impact on him as far as how he's carrying himself. Because it was every day, "Oh, God. What is he going to do today?" And she has had an impact. I think having an adult role, a positive adult role model, has really made a difference for that kid.

Hudson expressed a change in the dynamics of his relationship with his mentee, Tyson.

> I've seen him a few times after school on my way out, which means he's here, but I can't get him to come by anymore. At first, it was like he was really excited and seemed like he wanted to be [in the mentoring program]. It was after we sat down and wrote down some goals; it's really after that he got suspended for a pretty long period of time. And I haven't been able to get that connection built back since he got back from his suspension.

Hudson expressed that he was communicating with Tyson's teachers, and they reported that Tyson had not been turning in assignments. His multimedia and website design teacher explained that it was common for Tyson to exhibit excitement about an assignment, almost fully complete the assignment, but then fail to turn it in. Hudson was hopeful that he and Tyson could discuss this at their next meeting.

The issue of attendance was addressed by the group. Attendance is an issue for at least half of the mentees. During the first six-week reporting period, five mentees failed at least one course due to not making up time for absences. The social worker explained the appeal process that students must go through in order to have makeup time waived. She expressed that many students, particularly freshmen, and their families do not fully understand this process. With excessive absences comes missing work and other negative consequences. Specific areas that mentors could address with students were discussed including improving student communications with teachers regarding making up work and time, completing assignments, and taking responsibility. As the assistant principal expressed, students must be their own advocate. "While it's good that they have mentors [to be an advocate for them], our ultimate goal is that they can be self-sufficient."

The meeting ended with reminders about turning in mentor logs and a date was set to meet in three weeks.

Study. As a process measure, the number of mentor-mentee meetings for the prior six-week period was captured with the Mentor Survey and Student Survey. Figure 6 shows the comparisons of the number of reported meetings. Both surveys asked: "How many times did you and your mentee (or you and your mentor) meet during the last six weeks?" It is evident that the wording on the instrument was not clear regarding the meaning of the term "meet." Some participants only counted formal meetings, while others counted formal and informal meetings.

Number of Contacts Reported at Week 9
for Six-Week Period
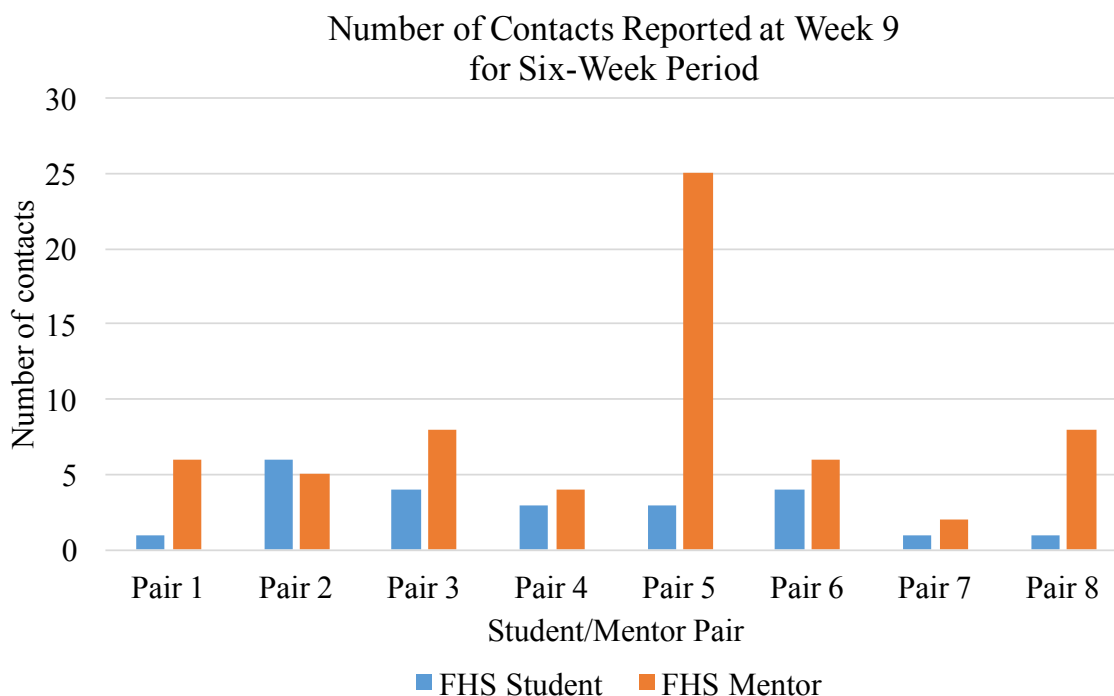
Figure 6. FHS number of contacts reported at week 9 for the prior six weeks.

The Mentor Survey and Student Survey also asked if participants felt like they were connecting (see Table 8). The majority of mentor-mentee pairs were in agreement regarding this. For Pairs 4, 6, 7, and 9, there were some differences between the perceptions of students and mentors. In each of these cases, the student more strongly reported a connection than the mentor. There was a striking difference in responses for Pair 7 with the student reporting a connection and mentor reporting no connection.

Table 8

FHS Student Survey and Mentor Survey Responses at Week 9

Pair	Do you feel like you are connecting with your mentor? If so, how?	Do you feel like you are connecting with your mentee? If so, how?
Pair 1	I dont know	Somewhat. He does not open up a lot, but my connection with his family helps.
Pair 2	Yes	Yes, my mentee has opened up to me about future goals and even some personal issues affecting the course of my mentee's education.
Pair 3	Yes, because she knows me personally.	Yes, her family. I had taught her sister so we talk about family. Also, looking at careers.
Pair 4	Yes because she is my favorite teacher and she understands me.	We are speaking more in the hallway, but the student still doesn't connect often.
Pair 5	Yea	Yes, we speak to each other every day. He seeks me out and asks if we can meet more often.
Pair 6	Yes, we meet once or twice through out the week.	Somewhat
Pair 7	Yes, she always there to help.	No
Pair 8	Yes	Yes, he will come by my room to inform me of completed assignments and other successes.
Pair 9	Yes Very Well	Yes - but marginally. He is very polite, but not forthcoming with information.
Pair 10	Kind of	NA

For this cycle, the average number of mentee-mentor contacts as reported via mentor logs increased from *M*=2.80 at week six to *M*=4.20 at week nine and *M*=4.22 at week 12 (see Table 9. During weeks seven through nine, only one mentor, Barbara, succeeded in formally meeting with her mentee three times, the goal set by the team. During weeks 10 through 12, only Shane met the goal by meeting with his mentee three times. Over the six-week cycle, these two mentors formally met with their respective mentees five times. In the same six-week cycle, one mentor met four times formally with her mentee, three mentors managed three such meetings, and three mentors had no formal meeting with their mentees. There was a higher frequency of informal meetings, with multiple pairs meeting informally over 10 times during the six weeks. For the three pairs that had no formal meetings, each pair met with their student at least two times informally.

Table 9

FHS Measures for Weeks 7-9 and Weeks 10-12

	Weeks 7-9		Weeks 10-12	
Measure	*N*	*M (SD)*	*N*	*M (SD)*
Mentor Contacts	10	4.20 (3.42)	9	4.22 (2.95)
Grade Average	10	55.78 (22.97)	9	59.47 (21.00)
Absences	10	1.45 (1.67)	9	1.11 (1.46)
Discipline Incidents	10	0.60 (0.52)	9	0.78 (1.39)

The mean grade average for students decreased to *M*=55.78 at week nine from *M*=64.20 at week six, followed by a slight increase to *M*=59.47 at week 12. Slight decreases in the

mean of student absences occurred, and the mean number of discipline incidents increased.

Each student's outcome measures at week 12 were compared to baseline data from 2016-17 or to week six data. Outcome measures included number of courses passed by students, number of courses with improved grades, attendance, extracurricular participation, discipline incidents, and mentoring program participation. Again, the design team considered the predetermined threshold that if at least 25% of students did not have improvement in at least two measures, the design team would consider revision to the initiative. At week 12, 56% of students showed improvement in at least two outcome measures.

A composite score for each student was calculated for the second administration of the PSSM. The mean of FHS students' (N=9) PSSM composite scores was M=3.22, SD=0.65. This is an 8% decrease from the first administration. Composite scores for individual students were examined. Four students had scores below the scale midpoint of 3.00 with 2.61 being the lowest. While the lowest scoring composite for this administration was higher, there was an increase from two to four in the number of students falling below the tipping point of 3.00. Four students had scores between 3.00 and 3.99 and only one student had a score above 4.00 at 4.83. This high composite exceeded the highest composite score calculated for the first administration.

Act. With 56% of students showing improvement in at least two outcome measures, changes to the mentoring program design were not recommended by the implementation team. The goal for the next PDSA cycle was to increase formal meetings with students to at least one per week. Mentors were to continue to focus on the

individual needs of their mentees. Based on data collected during PDSA cycle two, multiple mentors determined to focus on assisting students with improving attendance and completing assignments.

Tillman County Schools. Like in Robbins County Schools, PDSA cycle two was completed during weeks seven through 12 of implementation. These weeks coincided with the second six weeks of school.

Plan. Like PDSA cycle one, the majority of planning for PDSA cycle two was completed by the implementation team prior to the 2017-18 school year. No plan modifications were identified, and cycle two proceeded with the distribution of a five-question Mentor Survey and Student Survey, an implementation focus group meeting, distribution of a five-question Administrator Survey, and distribution of the second student PSSM questionnaire.

Do. Student surveys and mentor surveys were distributed during week seven. These surveys each contained five open-ended questions, including questions about the frequency of meetings and topics discussed during these meetings. Individual student surveys were provided to participating students, and mentor surveys were provided to each mentor.

During week eight, another implementation focus group meeting was held at JHS. Five mentors and three design team members were present. The scholar practitioner began the meeting by asking about what needed to be addressed or changed in the mentoring program. Mentors shared general successes, and one mentor asked for weekly updates on their mentee's grades and absences. Several mentors agreed that weekly updates would be helpful. The scholar practitioner informed the mentors that weekly

updates would be emailed to them individually. The scholar practitioner asked the group if they would like weekly suggested topics to discuss with their respective mentees. A mentor shared that:

> A lot of the time I spend with Jason has been discussing small things. One interesting thing that I've seen is that there are variables that you can change and variables that you can't change, and sometimes I think we get into how their home life's not great, or they don't have a lot of funds or money, or no one really encourages them to come to school. That kind of stuff. But then you can look at the other side of things you can change, and that is what I want to focus on. I don't need topics to discuss, we have plenty of things we can talk about.

The meeting concluded with the collection of mentor logs and the scholar practitioner confirming that weekly updates would begin during week nine.

During week 12 of this cycle, the five-question Administrator Survey was distributed to the principal of JHS. In addition, the second administration of the PSSM was distributed during week 12 of this cycle. All of the students completed the questionnaire within the next seven school days.

Study. Like the improvement change in Robbins County Schools, Tillman County Schools evaluated the Mentor Survey and Student Survey as a process measure. Both surveys asked: "How many times did you and your mentee (or you and your mentor) meet during the last six weeks?" Six students and seven mentors responded to their respective surveys. The mean for the six-week contact total (see Figure 7) reported by each mentee (N=6) was M=10.17, SD = 9.86 with the mentors (N=6) reporting a higher mean of M= 12.67, SD=9.33.
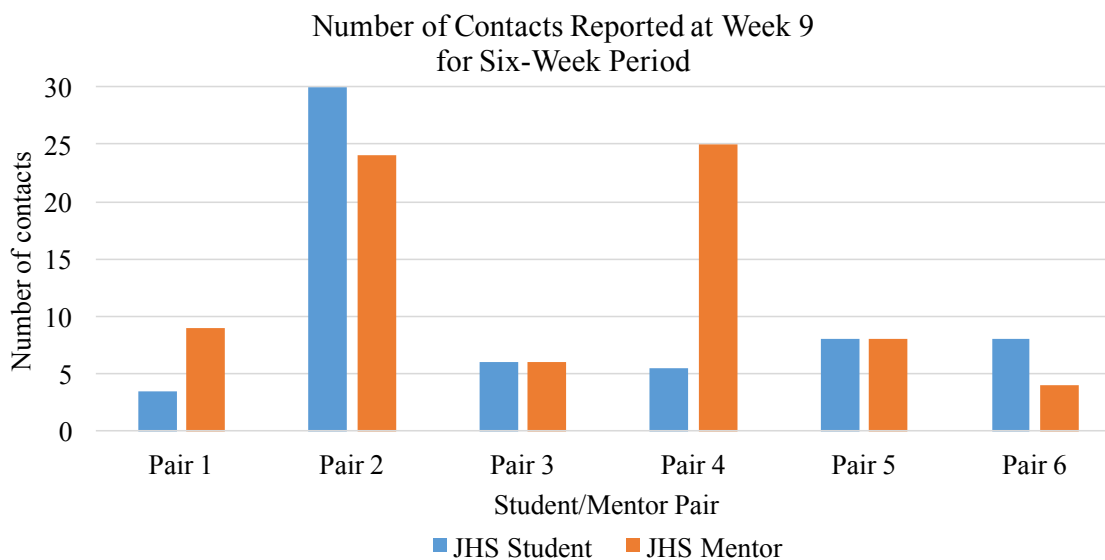
Figure 7. JHS number of contacts reported at week 9 for the prior six weeks.

The Mentor Survey and Student Survey also asked if participants felt like they were connecting (see Table 10). The majority of mentor-mentee pairs were in agreement regarding this connection. For Pairs 3 and 5, there were some differences between the perceptions of students and mentors. In each of these cases, the student more strongly reported a connection than the mentor.

Table 10

JHS Student Survey and Mentor Survey Responses at Week 9

Pair	Do you feel like you are connecting with your mentor? If so, how?	Do you feel like you are connecting with your mentee? If so, how?
Pair 1	Yes, because we understand each other.	Yes, we talk
Pair 2	Yes me and her get along very well and she doesn't move at a fast pace compared to me.	Yes, but I feel like we have plateaued recently. We have been working on making up missing assignments so he's not so excited to see me.
Pair 3	Yes, because I had her for a teacher and she is a really great talker.	Some days. She's told me a lot about her family and her home life.
Pair 4	Yes and because we talk a lot and hangout and we talk a lot about many different things	Yes, The time spent has allowed me to get to know him and has allowed him to be more comfortable in communicating his needs academically as well as needs in his personal life.
Pair 5	Good	Not sure. She doesn't usually warm up until the end of our conversations.
Pair 6	Yes because she is just really motivational	I know we like each other, but my impact on his grades has been minimal at best.

For this cycle, data collected from the mentor logs indicated that two mentors did not report any formal contacts during this cycle, but all mentors reported informal contacts. On average, mentors reported 5.12 contacts per student during weeks seven through nine and 4.42 contacts per student for weeks 10 through 12 (See Table 11). This was a decrease of 13.2% in the total number of mentor contacts as compared to PDSA cycle one, weeks one through six.

Table 11

JHS Measures for Weeks 7-9 and Weeks 10-12

Measure	Weeks 7-9		Weeks 10-12	
	N	*M (SD)*	*N*	*M (SD)*
Mentor Contacts	7	5.12 (4.95)	7	4.42 (4.69)
Grade Average	7	76.46 (8.85)	7	74.75 (12.38)
Absences	7	1.32 (1.22)	7	0.61 (0.54)
Discipline Incidents	7	0.57 (0.79)	7	0.57 (0.79)

The means of student grade averages, absences, and discipline incidents were calculated for PDSA cycle two. There was a 2.3% decrease in mean grade average and an improvement of 53.8% in student absences during this period.

Like in Robbins County, each student's outcome measures at week 12 were compared to baseline data from 2016-17 or to week six data. These outcome measures included number of courses passed, attendance, extracurricular participation, discipline incidents, and mentoring program participation. Again, the design team considered the predetermined threshold that if at least 25% of students did not have improvement in at least two measures, the design team would consider revision to the initiative. At week 12, 57% of students showed improvement in at least two outcome measures.

A PSSM composite score for each student was calculated for its second administration. The mean of JHS students' (*N*=7) PSSM composite scores was *M*=3.66, *SD*=0.76. This is a slight decrease from the first administration. An evaluation of composite scores for the seven individual students was conducted with scores ranging

from 2.78 to 5.00. One student scored below the scale midpoint of 3.0 with a 2.78. Four students scored between 3.0 and 3.99 and two students scored above a 4.0.

Act. With 57% of students showing improvement in at least two outcome measures, the implementation team did not recommend any changes to the improvement initiative. The goal for the next PDSA cycle was to increase mentor awareness of mentee academic and attendance progress. Going forward, the scholar practitioner would email weekly snapshots of academic and attendance progress collected from PowerSchool to each mentor.

PDSA Cycle Three

Robbins County Schools. PDSA cycle three was completed during the last three weeks of data collection, weeks thirteen through fifteen. These weeks coincided with the third six weeks of school.

Plan. No significant changes to program implementation were recommended by the implementation team for PDSA cycle three. The goal of meeting formally with mentees at least once per week remained in place. Mentors were to focus on assisting students with improving attendance and completing assignments. Mentors were encouraged to make sure that their mentees understood the school attendance policy, how to make up time, how to make up assignments, and how to better communicate with teachers. This information was provided during the previous implementation team meeting.

Four surveys were administered during this this cycle: Student Survey, Mentor Survey, Administrator Survey, and PSSM. The implementation team met twice, and outcome data continued to be collected.

Do. The implementation team met during week 14. Six mentors and two design team members were present. The meeting began with mentors sharing successes. Hannah shared that her mentee, Katrina, now drops by Hannah's classroom on her own. Considering the fact that a couple of weeks ago Hannah did not perceive that she was making a connection with Katrina, this was progress. Mya reported that she had been working on reducing tardiness with her mentee, Alexis. Mya helped Alexis identify the root causes of the tardies. Repeatedly missing the bus was the obvious reason for the tardies. When discussing why she missed the bus, Alexis blamed her bother. Mya and Alexis discussed actions that Alexis could take to ensure that she and her brother would be ready in time to catch the bus every morning. The encouragement and accountability that Mya provided supported Alexis to follow through with the action plan; thereafter, Alexis had no recorded tardies. Shane shared how proud he was of his mentee Ted's perseverance on the wrestling team.

> My kiddo has joined the wrestling team and has participated fully, so that's a good thing...I mean, he's over the hump. A lot of the times they want to be on the team, and they get their rear kicked, and they quit. But he's not. He's sticking with it.

Wendy, Berry's mentor, was not able to attend the meeting, so Berry's math teacher, Barbara, shared about his successes.

> Wendy has the same story. Berry also joined the wrestling team, and he is like 3 and 0 as a JV wrestler. He is very excited. And he also got to go do prep work for the cooking club, and he was super excited because that was a privilege for him to get to do that.

Barbara also shared about her mentee, Brenda. Brenda had failed World History last year, never having earned a passing grade for any reporting period. "After five reporting periods of being in World History, [Brenda] made a C. A 75 C."

Mentors also shared challenges that they were experiencing. Pamela expressed, "I have tried. I cannot connect with this kid, and I don't often have that experience either." She explained that her mentee, Eric, had failing grades in all classes, did not turn in work, had excessive absences, and did not show for scheduled mentor-mentee meetings. Eric claimed that he had to take care of younger siblings at home and that this responsibility caused the absences and missing assignments. When Pamela mentioned inviting his mother to come to school for a conference, Eric's attitude completely changed. According to Pamela, his "demeanor went from respectful to completely agitated...And he shut down and refused to talk to me." Eric currently had a grade average of eight in one of his classes, and Pamela expressed her fears that he had given up. She shared her concern that she was failing as a mentor. We discussed that perhaps Pamela's role could be to connect Eric with someone else. She indicated that Eric had a strong rapport with one of the physical education teachers. She planned to talk with the coach that week.

Concerns regarding Curtis were brought up. He had not been in school since week nine and no school had requested his records. Attempts to contact his father had been unsuccessful, and his mother is deceased. Curtis did not turn in his school-issued laptop prior to leaving. It is believed that he is using his laptop, so this may assist administration in finding him.

Hudson shared his ongoing concerns about Tyson, who had continued to distance himself from Hudson. After a very productive meeting of goal setting in September, and after a couple of suspensions, Hudson and Tyson were not connecting.

Several mentors, including Hudson, were scheduled to have their mentees as students in the coming semester. The mentors questioned how this might impact their relationship with their mentees. After lengthy discussion, the mentors expressed belief that having their mentees in class could be a very positive experience.

The meeting neared its conclusion with the scholar practitioner encouraging mentors to make contact with parents, with whom the challenges of finding available times for mentor-mentee meetings could be discussed and addressed. For mentors seeking to meet with mentees before or after school, parental awareness and support could prove very useful. The meeting ended with setting a date for the next implementation team meeting.

The Student Survey and Mentor Survey were distributed during week 14. Only four students had completed the survey within the week. The scholar practitioner visited the school and administered the survey to the remaining students. Five mentors had completed their survey within one week, with the remaining mentors completing the survey within two weeks.

Immediately after week 15, the PSSM questionnaire was administered to students for the final time. The scholar practitioner administered the survey to students at the school during the flexible period and lunch. The Administrator survey was completed by the principal and the assistant principal who served on the design team. Just prior to getting out for winter break, the scholar practitioner purchased lunch for mentors and

mentees. This provided an additional opportunity for pairs to have a dedicated time to meet together.

The final implementation team focus group was held immediately after week 15. Seven mentors and three design team members were present. The scholar practitioner shared with mentors the positive comments made by students earlier in the day. After completing the PSSM questionnaire, each student engaged in brief conversation with the scholar practitioner. When Ted was told that he would not have to complete a survey again for a long time, he replied, "Am I still going to meet with [Shane]?" The research practitioner replied that he would. He said, "Thank goodness!" Several other students inquired about continuing to meet with their mentor. All responses from mentees were positive and hopeful about the continuation of the mentoring relationships.

Pamela shared that immediately after our last implementation team meeting she met with the student services management team to address the barriers to Eric's success, particularly his struggles with reading. As a result, an additional meeting was held at the school with attendees being Eric's mother, the school counselor, an exceptional children (EC) resource teacher, an assistant principal, and the graduation coach. Eric's mother officially requested that Eric be tested for the EC program. This had been explored in middle school; however, excessive absences prohibited evaluation. Outcomes for the meeting included identification of specific reading interventions to be put in place, a change of Eric's class schedule, and the pairing of Eric with a peer for daily tutoring sessions.

Hannah explained that she had arranged for a meeting with Katrina's family and teachers. Katrina's family did not show. Hannah called the family immediately to make

sure they remembered the meeting. They had run out of gas in the driveway and were not able to make it to school. They agreed to reschedule the meeting. Since that conversation, Hannah had not been able to reach Katina's family to reschedule. Hannah will continue to reach out to the family and to offer assistance.

An update on Curtis was provided. An out-of-state school requested records this week; this was six weeks after his last day in attendance at FHS. Additionally, multiple mentors expressed serious concerns about their mentees not completing assignments and the impact this was having on student grades.

The meeting concluded with a discussion of the continuation of the mentoring program. The scholar practitioner will continue to collect monthly mentor logs with implementation team meetings occurring approximately every nine weeks.

Study. As in the first administrations of the Mentor Survey and Student Survey, the number of mentor-mentee meetings for the prior six-week period was captured. Figure 8 shows the comparison of the number of reported meetings. No changes were made to the survey instruments. Again, as mentioned above, some participants only counted formal meetings, while others counted both formal and informal meetings.

Number of Contacts Reported at Week 14
for Six-Week Period
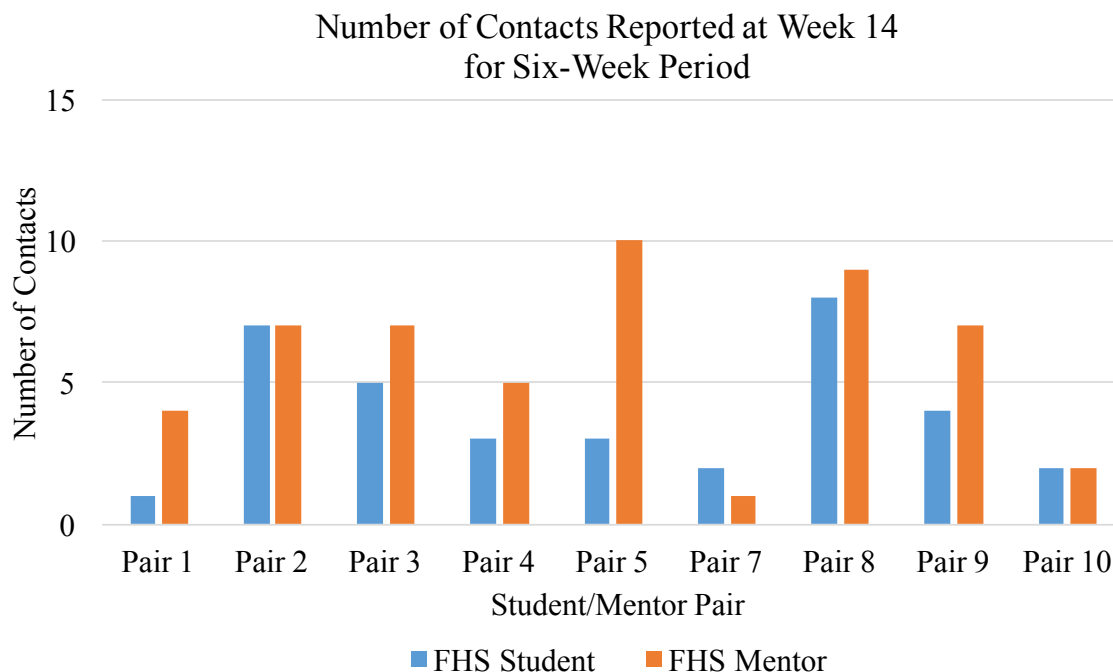
Figure 8. FHS number of contacts reported at week 14 for the prior six weeks.

The Mentor Survey and Student Survey also asked if participants felt like they were connecting (see Table 12). Eight of the nine mentor-mentee pairs were in agreement with all students reporting that they were connecting with their mentors. Four students stated that they perceived that their mentor "understands" them. Understanding is a critical element in building caring and trusting relationships that foster school connectedness (Centers for Disease Control and Prevention, 2009). One mentor reported that she and her student (Pair 7) were not connecting; however, the student stated "Yes. She understands what I'm feeling." The responses of this pair for the second administration of the survey were similar to that of the first administration.

Table 12

FHS Student Survey and Mentor Survey Responses at Week 14

Pair	Do you feel like you are connecting with your mentor? If so, how?	Do you feel like you are connecting with your mentee? If so, how?
Pair 1	Yes	We are connecting fairly well. I know his family and had him in class. We can talk about his performance, and I feel that he is being honest with me.
Pair 2	Yea	Yes, she is really open in our conversations.
Pair 3	Yes, because she understands what I go through.	Yes, I knew her sister and we talk about her future.
Pair 4	Yes	I feel like as time goes on, we are connecting more. We speak casually in the hall more often and she wants to say hello when she can.
Pair 5	Yes she understands me	Yes. We talk openly and honestly about his progress.
Pair 7	Yes. She understands what I'm feeling.	No
Pair 8	Yes	Yes, we are talking more and more about challenges
Pair 9	Yes he is such a good guy.	Yes - we are working on reading interventions.
Pair 10	Yes he understands me	At first I did feel we were connecting, but I am now having a hard time getting him to come see me.

For this cycle, the average number of mentee-mentor contacts as reported via mentor logs increased from *M*=4.22 at week 12 to *M*=5.67 at week 15 (see Table 13). During weeks 13 through 15, four mentors formally met with their mentees at least three times during the three-week period, meeting the goal set by the team. This is an improvement from the last cycle where only one mentor met the goal during each three-week period. All mentors formally met with their mentees at least one time during the three weeks, with the mean number of formal meetings being *M*=2.44. The mean of informal meetings was *M*=3.22.

Table 13

FHS Measures for Weeks 13-15

Measure	N	Weeks 13-15
		M (SD)
Mentor Contacts	9	5.67 (3.39)
Grade Average	9	52.90 (21.16)
Absences	9	2.30 (1.63)
Discipline Incidents	9	0.11 (0.33)

The mean grade average for students decreased to *M*=52.90 at week 15 from *M*=59.47 at week 12. It is important to note that week 15 grades were taken during the middle of the reporting period. This was due to research-related time constraints. There was an increase noted in the mean of student absences from *M*=1.11 at week 12 to *M*=2.30 at week 15. There was a decrease in the mean number of discipline incidents from *M*=0.78 at week 12 to *M*=0.11 at week 15.

A PSSM composite score for each student was calculated for its third administration. The mean of FHS students' (*N*=9) PSSM composite scores was *M*=3.61, *SD*=0.54. This is a 12% increase from the second administration. Composite scores for individual students were examined. No students scored below the scale midpoint of 3.00. Eight students had scores between 3.00 and 3.99 and one student had a score above 4.00 at 4.83.

Act. With PDSA cycle three ending in the middle of a reporting period due to research-related time constraints, the team planned to analyze academic progress at the end of the semester. The team made plans to continue the implementation of the mentoring program, including the continuation of monthly mentor logs and implementation team meetings.

Tillman County Schools. Like in Robbins County Schools, PDSA cycle three was completed during weeks thirteen through fifteen of implementation. These weeks coincided with the third six weeks of school.

Plan. Input from the implementation team focus group resulted in the goal of increasing mentor awareness of mentee academic and attendance performance. The scholar practitioner emailed weekly snapshots of academic and attendance progress collected from PowerSchool to each mentor. No additional plan modifications were identified. Cycle three proceeded with an implementation team focus group meeting; the second distribution of the five-question mentor, student, and administrator surveys; and distribution of the third student PSSM questionnaire.

Do. During week thirteen another implementation focus group meeting was held at JHS. Four mentors were present along with two design team members. The scholar

practitioner began the meeting by asking if anyone had suggestions for improvement or change for the mentoring program.

Mentors shared general successes, and Jenny shared an example of how a mentoring program can help other teachers; if teachers are having a hard time engaging with a particular student, a mentor can serve as an external support mechanism for them. Several examples of additional support were provided. Gavin stated that:

> The biggest thing for me is that I've established the bridge for him here at school. He's letting me know about some personal hygiene needs too, and I gave some [products] to him yesterday. He didn't have a razor, shampoo, or body wash…he's opened up about needs outside of school to me. And he doesn't mind asking, and I'm okay with that. I have even arranged for the last two haircuts he's gotten.

Several mentors discussed that the students lack perseverance and quickly give up if something is challenging. Helen shared:

> My mentee shuts down pretty quickly. For the last two weeks it's been better, but I've just had to say to her that these behaviors are not an option and this is how you're not to carry on. It is nice when you feel like you are making a difference.

The meeting concluded with the collection of mentor logs and with the scholar practitioner sharing that the end of the next cycle would conclude data collection for this improvement initiative.

Student surveys and mentor surveys were distributed during week fourteen. These surveys each contained five open-ended questions including questions about the frequency of meetings and the topics discussed during these meetings. Individual student

surveys were provided to participating students and mentor surveys were provided to each mentor.

During week fifteen of this cycle, the five-question Administrator Survey was distributed for the second time to the principal of JHS. In addition, the third and final administration of the PSSM was distributed to students during week fifteen of this cycle. All students completed the PSSM questionnaire within five days of distribution.

   Study. Like the improvement initiative in Robbins County Schools, Tillman County Schools evaluated the Mentor Survey and Student Survey as a process measure. Both surveys asked: "How many times did you and your mentee (or you and your mentor) meet during the last six weeks?" Seven students and six mentors responded to their respective surveys. A mean for the six-week contact total (see Figure 9) reported by each mentee (*N*=6) was *M*=9.92, *SD* = 10.18 with the mentors (*N*=6) reporting a lower mean of *M*= 6.00, *SD*=4.00.
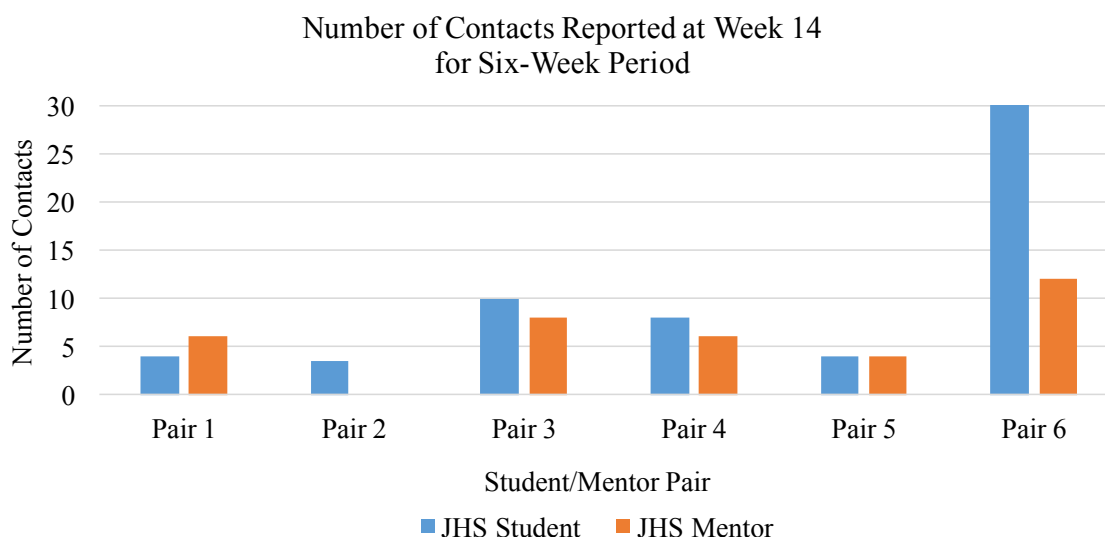
Figure 9. JHS number of contacts reported at week 14 for the prior six weeks.

The Mentor Survey and Student Survey also asked if participants felt like they were connecting (see Table 14). The majority of mentor-mentee pairs were in agreement regarding their mentor-mentee connection. For Pairs 2 and 4, there were some differences between the perceptions of students and mentors; in these two cases, the student reported a connection and the mentor reported that there wasn't a connection.

Table 14

JHS Student Survey and Mentor Survey Responses at Week 14

Pair	Do you feel like you are connecting with your mentor? If so, how?	Do you feel like you are connecting with your mentee? If so, how?
Pair 1	Yes, we have been discussing a lot of thing that would help me to pass my grade.	Somewhat... I think we have different expectations of what we both would like to accomplish in mentoring
Pair 2	Yes, I have had her class before in the past so I we really know each other well.	Not really
Pair 3	Yes, he takes me to get haircuts too.	Yes, just the amount of time meeting and talking has helped him to open up about his needs in and out of school.
Pair 4	Yeah, I feel like I can talk to her if I need someone.	Not really. She's very sweet and polite, but I don't feel we have a connection.
Pair 5	She ask me how my grades are and tells me I'm doing good when they are good and she pushes me to do better	Yes. More at ease with each other.
Pair 6	Yes because she understands how stressful school can be	We do like each other, but I am unsure of my effect on his grades.

For this cycle, data collected from the mentor logs indicated that one mentor did not report any formal contacts during this three-week cycle. A separate mentor indicated that no informal contacts had taken place during this cycle. On average, mentors reported

4.71 contacts per student during weeks thirteen through fifteen (See Table 15). This was an increase of 6.2% in the total number of mentor contacts as compared to PDSA cycle two, weeks 10 through 12.

Table 15

JHS Measures for Weeks 13-15

		Weeks 13-15
Measure	*N*	*M (SD)*
Mentor Contacts	7	4.71 (3.25)
Grade Average	7	70.11 (14.10)
Absences	7	0.43 (0.55)
Discipline Incidents	7	0.71 (0.95)

The means of student grade averages, absences, and discipline incidents were calculated for PDSA cycle three. There was a 6.2% decrease in mean grade average, and an improvement of 29.5% in student absences was recorded during the same period.

A PSSM composite score for each student was calculated for its second administration.

The mean of JHS students' (*N*=7) PSSM composite scores was *M*=3.67, *SD*=0.67. An evaluation of composite scores for the seven individual students was conducted with scores ranging from 2.89 to 4.89. One student scored below the scale midpoint of 3.0 with a 2.89. Four students scored between 3.0 and 3.99 and two students scored above a 4.0.

Act. With the improvement cycle ending prior to the finalization of the reporting period, the implementation team will wait until the end of the semester to evaluate student progress. The implementation team will make necessary modifications at that time. The current plan is to continue the school-based mentoring program for next semester.

IMPACT

As reiterated within this paper, students who drop out of school prior to earning a high school diploma are in a disadvantaged position, both socially and economically. Recognizing the negative consequences of dropping out, the scholar practitioners sought to address this problem by implementing a school-based mentoring program, based on the Check & Connect engagement model (Christenson et al., 2012), designed to increase school connectedness for at-risk students. The mentors closely monitored student attendance, behavior, and grades. They engaged with students through weekly mentoring sessions and intervened based on the individual needs of students, often linking students to support structures offered both within and outside of school.

To determine if the implemented change resulted in an improvement, the scholar practitioners conducted a summative evaluation of quantitative outcome data. Outcomes of interest in this initiative included school connectedness, student grades, attendance, discipline incidents, and extracurricular participation.

Impact on School Connectedness

The primary measure of the intermediate aim of increasing school connectedness was the Psychological Sense of School Membership questionnaire. Friedman's ANOVA was run via SPSS to determine differences between groups across multiple administrations of the PSSM questionnaire. There was no statistically significant difference in school connectedness, $\chi^2(2) = 1.690$, $p = 0.430$.

Comparisons of the mean composite scores for each PSSM administration are provided in Table 16. A paired-samples T-test was conducted to compare mean PSSM composite scores. The difference between the first PSSM administration and final PSSM

administration was found to be statistically significant, t(15)= -2.203, p=.044. Of the

three PSSM administrations, the third resulted in the highest composite score mean

(*M*=3.66).

Table 16

PSSM Composite Scores: Paired Samples Test

	M_1	M_2	Δ	*t*	*df*	*p*	*Cohen's d*
FHS & JHS	3.60	3.44	-0.16	0.958	14	.354	0.25
	M_2	M_3	Δ	*t*	*df*	*p*	*Cohen's d*
FHS & JHS	3.44	3.66	0.22	-0.456	14	.655	-0.12
	M_1	M_3	Δ	*t*	*df*	*p*	*Cohen's d*
FHS & JHS	3.60	3.66	0.06	-2.203	15	.044	-0.55

Note: M_1=Mean composite scores for administration one. *M_2*=Mean composite scores for administration two. *M_3*=Mean composite scores for administration three.

Further analysis of data was conducted by examining the PSSM composite scores

relative to the scale midpoint of 3.00. Figure 10 displays the frequency distribution of

PSSM composite scores within three ranges: 0.00 to 2.99, 3.00 - 3.99, and 4.00 to

5.00. Whereas three students in administration one and five students in administration

two scored below the scale midpoint, only one student in administration three scored

below 3.00.

PSSM Composite Scores
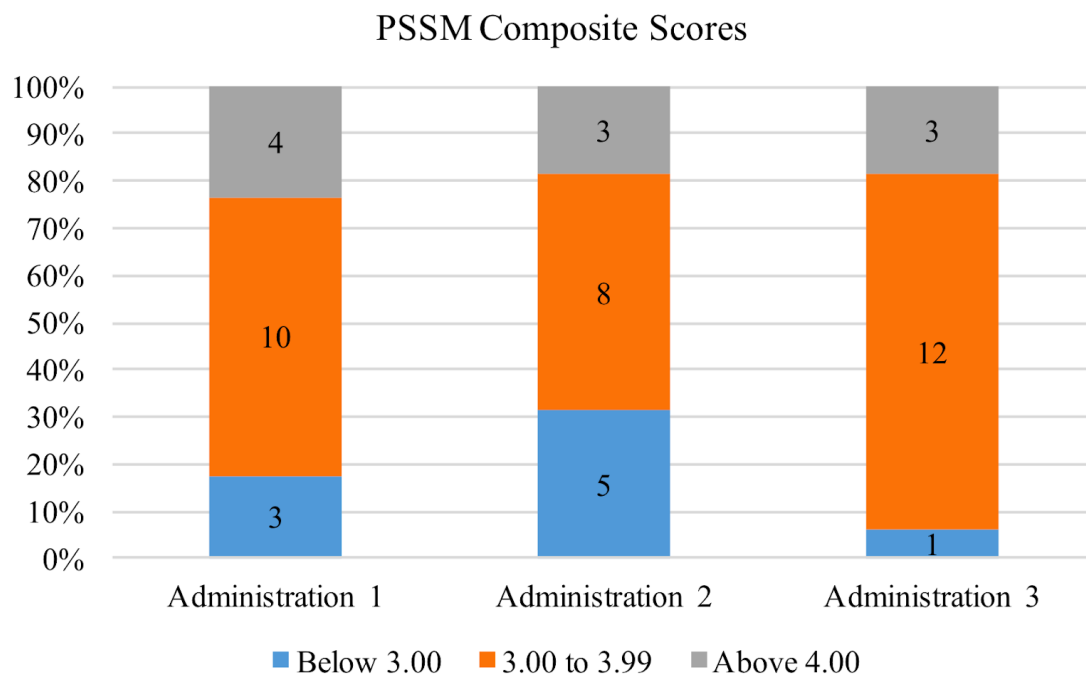
Figure 10. Frequency distribution of PSSM composite scores for administrations one, two, and three.

Further examination of the PSSM data was made by splitting the data by school (see Table 17). For FHS, the difference of 0.39 between the second PSSM administration and the final administration was statistically significant, $t(7)= -2.798$, $p=.023$. In general, there was no statistically significant difference between the first and final PSSM administrations.

Table 17

PSSM Composite Scores by School: Paired Samples Test

School	M_1	M_2	Δ	t	df	p
FHS	3.50	3.22	-0.28	.925	7	.386
JHS	3.74	3.66	-0.08	.289	6	.783
	M_2	M_3	Δ	t	df	p
FHS	3.22	3.61	0.39	-2.798	7	.023
JHS	3.66	3.67	0.01	-.074	6	.943
	M_1	M_3	Δ	t	df	p
FHS	3.50	3.61	0.11	-.700	8	.506
JHS	3.74	3.67	-0.07	.280	6	.789

Note: M_1=Mean composite scores for administration one. M_2=Mean composite scores for administration two. M_3=Mean composite scores for administration three.

An analysis of individual student PSSM responses indicated a substantial mean increase from administration one to three of 0.48, a change of 13%, in item seven: There's at least one teacher or other adult in this school I can talk to if I have a problem. Figure 11 displays the frequency distribution of responses to item seven for all three administrations of the PSSM.

Item 7 Responses
There's at least one teacher or other adult in this
school I can talk to if I have a problem.
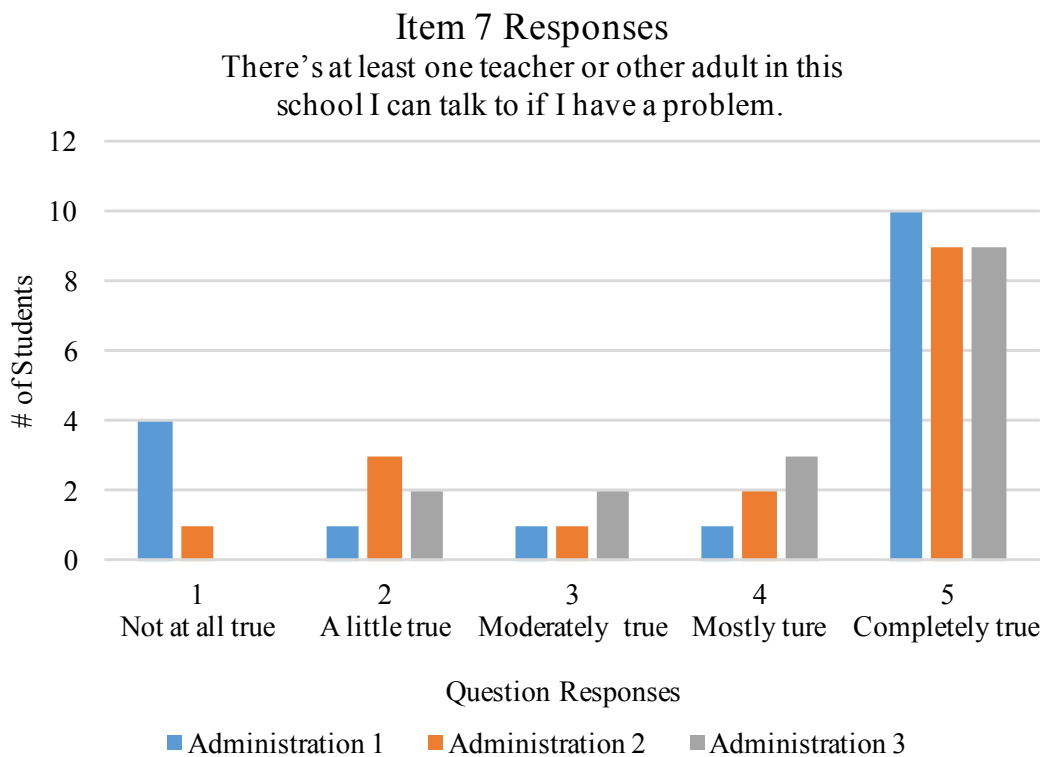
Figure 11: Frequency distribution of responses to PSSM item 7.

Impact on Academic Achievement

For comparison of student grades from 2016-17 to 2017-18, the average of grades for core subjects were calculated for reporting periods that aligned with the time span of the fifteen-week improvement initiative. Core subjects included in these calculations were English, mathematics, science, and social studies. For Robbins County Schools, core subjects averages were calculated for the first and second six weeks reporting periods. For Tillman County Schools, core subjects averages were calculated for the first nine weeks reporting period.

Robbins County Schools. The core subjects averages for individual Robbins

County students are displayed in Figures 12 and 13. Six of the 10 students showed an

increase in their first reporting period core subjects average from 2016-17 to 2017-

18. For the second reporting period, six of the remaining nine students showed an

increase from 2016-17 in the core subjects average.
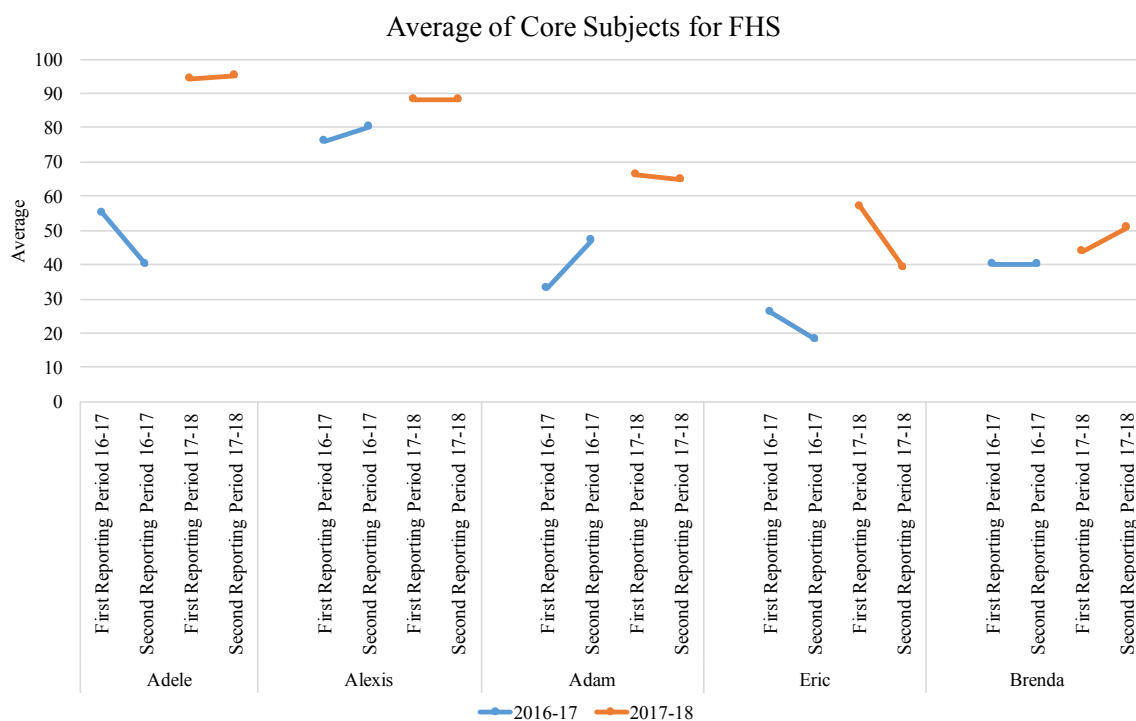
Figure 12. Average of core subjects by reporting period for FHS students.

Adele exhibited a dramatic improvement in grades in 2017-18. Whereas her core

subjects average for both reporting periods was below the passing threshold of 60 in

2016-17, she improved to averages above 90 in 2017-18. Alexis also saw consistent

improvement for both reporting periods and maintained an 88 average for first and

second reporting periods in 2017-18. Adam improved significantly by increasing from

33 to 66 during the first reporting period and increasing from 47 to 65 during the second

reporting period. While Eric and Brenda had failing grades for both reporting periods during 2017-18, there were notable improvements from 2016-17.
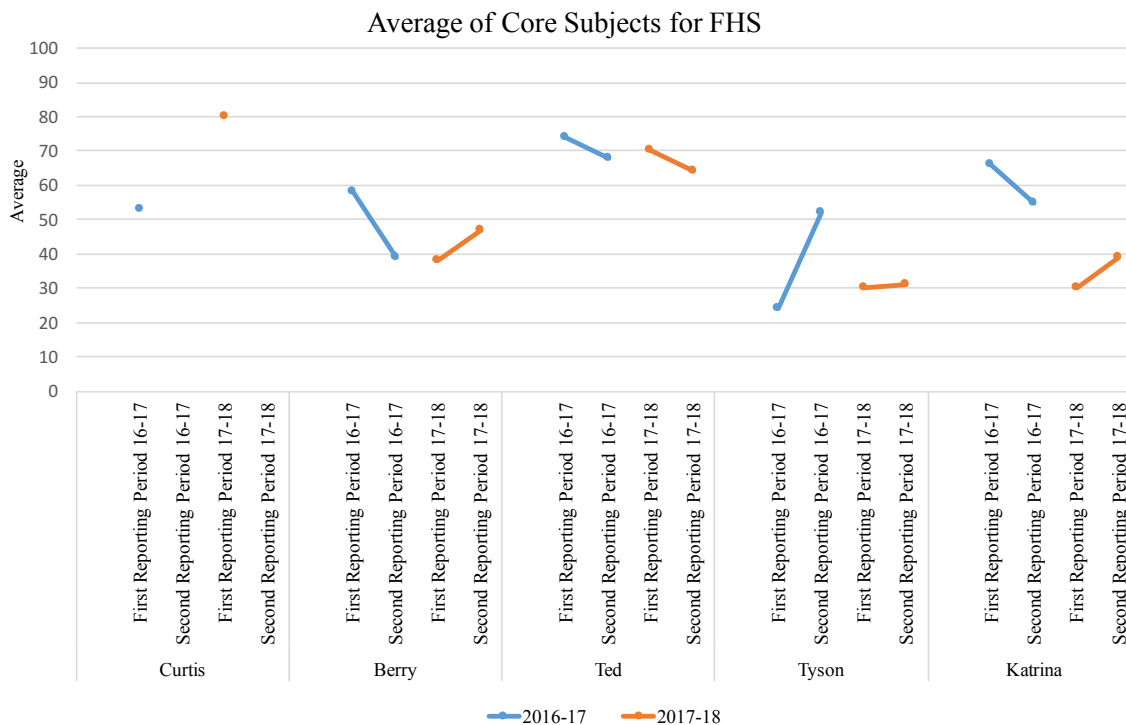
Figure 13. Average of core subjects by reporting period for FHS students.

Only first reporting period data was available for Curtis due to his withdrawal from school prior to the end of reporting period two. His core subjects average improved from 53 to 80. Berry showed improvement in the average for the second reporting period; however, his grade average remained below 60. Ted, Tyson, and Katrina showed decreased core subjects averages.

Tillman County Schools. The core subjects averages for individual Tillman County students are displayed in Figure 14. Comparing the core subjects averages from 2016-17 to 2017-18, two of the seven students showed improvement. Amy showed a marked improvement in 2017-18. Her core subjects average increased from 78 to

92. Similarly, Carrie improved from 69 to 81. Jason, Kate, Toby, Andy, and Jodi showed decreased core subjects averages for 2017-18 as compared to their 2016-17 averages.

Average of Core Subjects for JHS
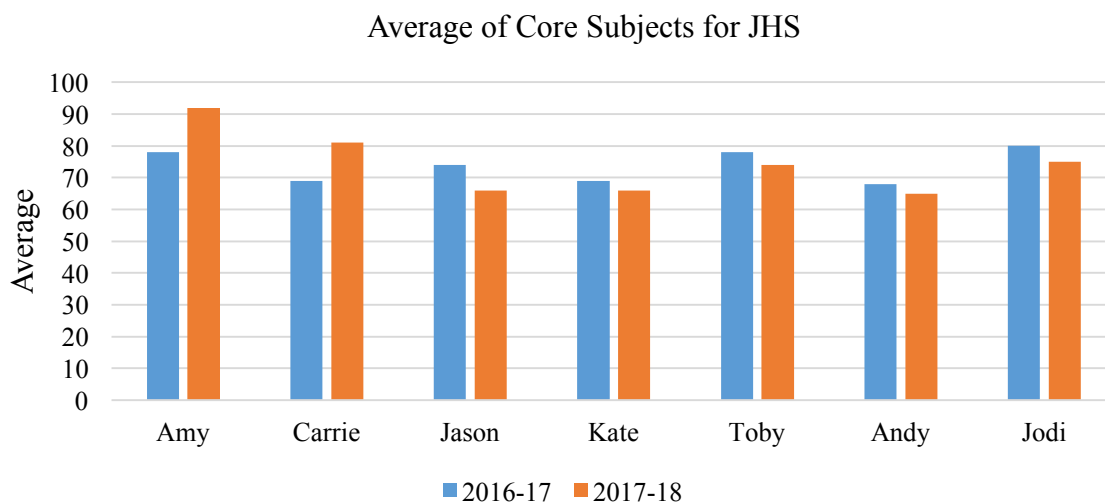
Figure 14. Average of Core Subjects by reporting period for JHS students.

Impact on Attendance

Figure 15 compares the number of absences for the first three months of the 2016-17 and 2017-18 school years. A notable improvement in recorded absences of participating students occurred during month three of 2017-18. There was a 33% decrease from month three of the previous year. Month three coincided with weeks nine through 12 of the improvement initiative. The total absences for the three-month period in 2017-18 indicated a 5% decrease from the same period in 2016-17.

Total Number of Absensces

	Month 1	Month 2	Month 3
■ 2016-17	28	24	43
■ 2017-18	32	29	29
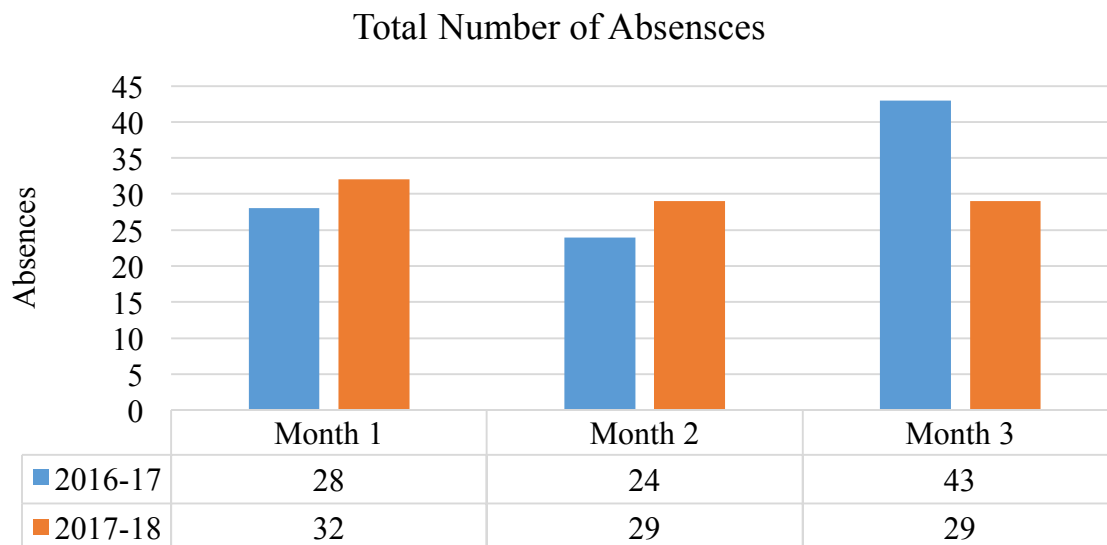
Figure 15. Total number of absences for all student participants by school month.

Figure 16 displays the total number of absences for each participating student for the first three months of the 2016-17 and 2017-18 school years. Thirty-three percent of students showed an improvement in attendance during program implementation.

Student Absensces
Months 1-3
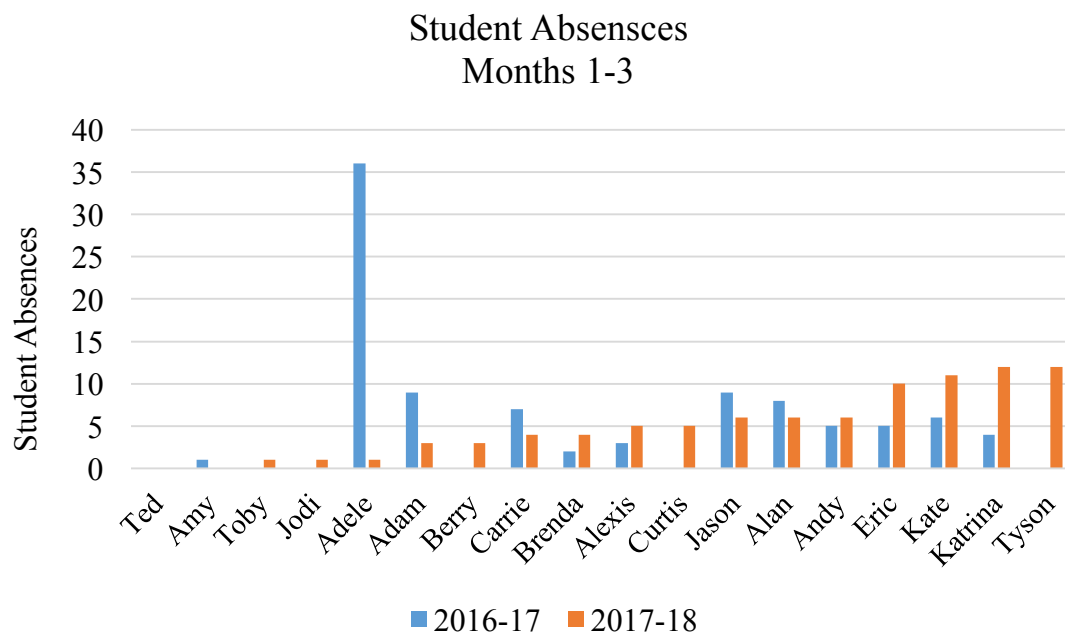
Figure 16. Total number of absences by student for months one through three.

Impact on Discipline Incidents

For participating students, there was a 54% increase in the total number discipline incidents during the first 15 weeks of 2017-18 as compared to the same time period in 2016-17. Figure 17 displays the total number of discipline incidents for each student for these time periods. One student, Tyson, had a dramatic increase from two incidents in 2016-17 to nine in 2017-18. His inappropriate behavior was not isolated to the school setting and resulted in Tyson being scheduled for temporary placement in a therapeutic home to receive appropriate support. Five students had zero incidents in 2016-17 and increased by no more than two incidents in 2017-18. Brenda showed no change, having one reported incident in each year. A total of seven students had no discipline incidents in 2017-18. Five of these seven had zero incidents during this time period for both years. Four students improved by decreasing their number of incidents in 2017-18. Sixty-three percent of participants either maintained or improved their discipline record.

Discipline Incidents
Weeks 1-15
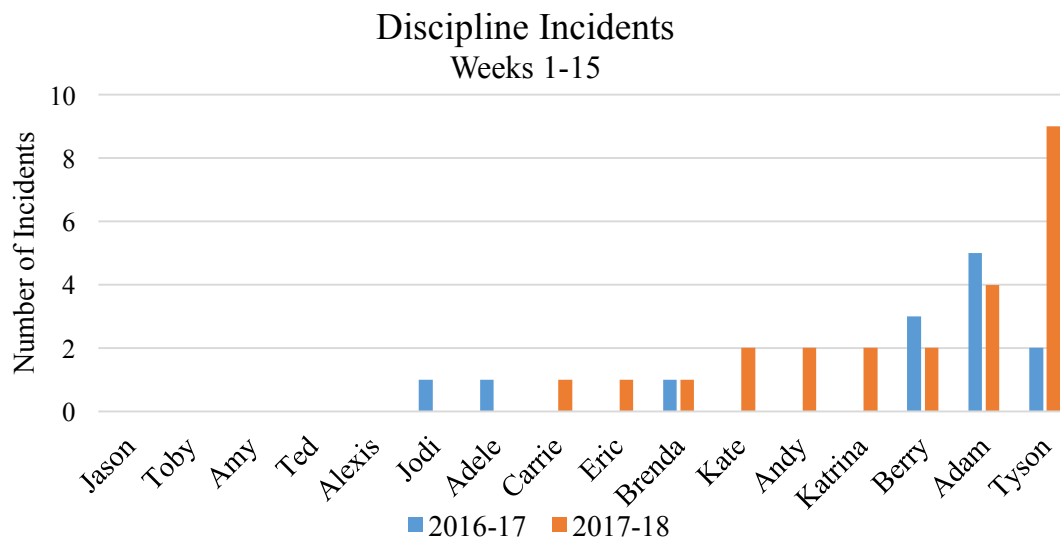
Figure 17. Discipline incidents for weeks one through 15 of 2016-17 and 2017-18.

Impact on Extracurricular Participation

Data revealed an increase in extracurricular participation by student participants. During the 2016-17 school year, three students participated in a total of three extracurricular activities. For the 2017-18 school year, eight students participated in a total of 11 extracurricular activities. Thus, there was a 31% increase in the percentage of students participating in extracurricular activities, improving from 19% in 2016-17 to 50% in 2017-18. Extracurricular activities for these students included football, basketball, wrestling, chorus, and U.S. Marine Corps Junior Reserve Officer Training Corps (JROTC).

Overall Impact

Results from the summative evaluation indicated improvements for the measures of school connectedness, grades, attendance, discipline incidents, and extracurricular participation. Seventeen of the 18 participating students improved in at least one measure. Five students improved in two measures, and one student improved in three

measures. Three students demonstrated improvement in four of the five areas. Figure 18 provides the overall impact of the improvement initiative. The figure indicates the number of students who improved, showed no change, and worsened in each domain.
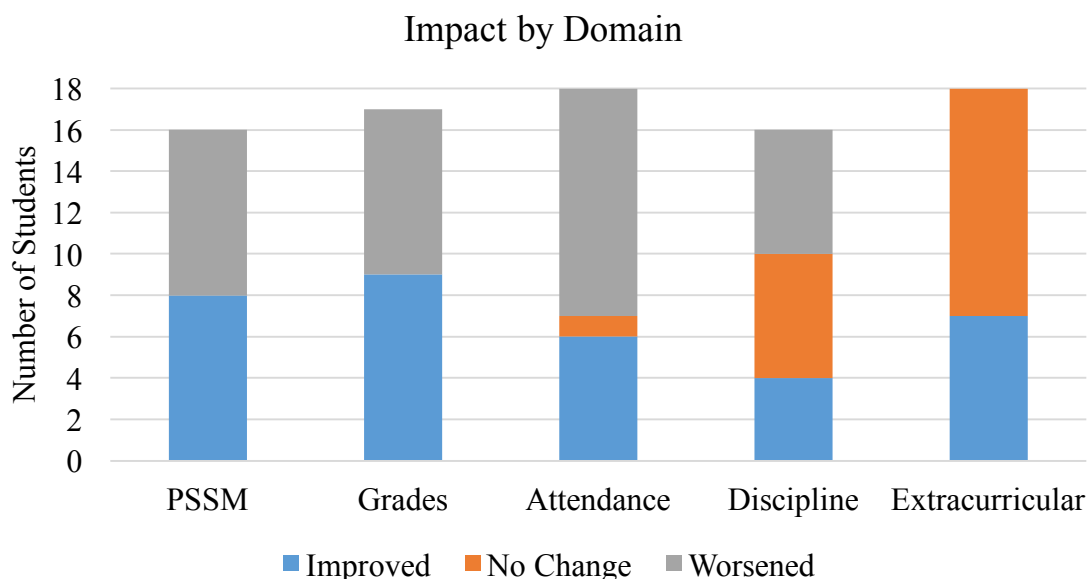
Figure 18. Impact of the improvement initiative by domain.

The improvement initiative seemed most beneficial in improving student grades and school connectedness, as measured by the PSSM questionnaire. As the literature indicates, these two factors are critical to increasing a student's probability of completing high school, since these factors correlate inversely with dropping out (Christle et al., 2007; Hammond et al., 2007; Rumberger & Lim, 2008). In the area of school connectedness, eight students showed worsening PSSM composite scores, ranging from a 0.05 to a 0.67 decrease. Eight students showed decreases in the core subjects average for the 15-week period. Of these eight students, five students had a five point or less

decrease of their average. Six students showed a decrease in both the PSSM composite and the core subjects average.

The initiative seemed least effective in improving student attendance. Eleven of the participating students had increased absences. Student discipline data indicated only four students showed improvement, six students showed an increase in the number of discipline incidents, and six students remained the same, having zero discipline incidents during the first 15 weeks of the 2016-17 and 2017-18 school years. Of these six students who had an increase in incidents, five students increased by only one or two incidents and one student increased by seven. Extracurricular participation increased for seven students. Ten of the remaining students had no participation during the first 15 weeks of both school years.

The students selected for this program were known to struggle in the areas measured, as indicated in Tables 4 and 6. Student participants were selected due to their need for interventions; therefore, this was a purposive sample, not a randomized sample. Thus, the changes may not be solely attributed to this improvement initiative. A constellation of variables could have contributed to the results including the transition to high school for freshmen, core course load, varying grading practices, and teacher expectations. While there are some limitations here and it is difficult to make causal statements, the quantitative and qualitative data give evidence that the overall impact of the improvement initiative was positive when you examine the perspectives of students, mentors, and administrators.

IMPLICATIONS AND RECOMMENDATIONS

Lessons for Implementation

The Teacher and Student Connect (TASC) improvement initiative provided a school-based mentoring program for 16 high school students. This 15-week improvement cycle coincided with the beginning of the 2017-18 school year and concluded prior to the end of the first semester of school. Constraints during this implementation included a compressed timeline for data collection and abbreviated PDSA cycles.

The 15-week improvement cycle was designed to coincide with the scholar practitioners' research timeline and not the end of the reporting period for the school semester. The challenge was in confirming student grades prior to the finalization of a reporting period. Additionally, this implementation contained three PDSA cycles embedded within the 15-week program. The durations of the PDSA cycles were too short and resulted in a compressed timeline between the administrations of student surveys, mentor surveys, and PSSM questionnaires. The reduced time between administrations may have impacted the return rate and reliability of responses for these instruments. In addition, conducting implementation team meetings every three weeks was too ambitious and may have resulted in lower member attendance and reduced participation during the meetings. A recommendation for future implementations would be to make the improvement cycle duration longer to capture the end of the grade reporting period and to allow more time between iterations. This also would allow more time for data analysis and to implement needed adjustments for the improvement initiative.

During analysis of mentor logs it was discovered that formal meetings were not occurring on a weekly basis for each mentee. This discrepancy may have been a result of insufficient emphasis on this topic during professional development or by the difficulty to arrange and sustain a formal meeting time each week. A recommendation for future implementations would be to incorporate more detailed guidelines for mentor contacts and to provide exemplars for mentor log completion. An additional recommendation is to modify the mentor log format to include more formal meeting note-taking space.

The sustainability of this improvement initiative is dependent on the number of mentors and students who are willing to participate. Mentors for this improvement initiative volunteered and were not compensated. In order to implement this program on a larger scale, additional volunteers would be needed unless funding is available to hire dedicated mentors. A monetary incentive could increase interest in serving in the mentor role; however, it is uncertain as to whether this would change the authenticity of the mentor-mentee relationships.

The plans for expansion of this initiative are to add five freshmen and five mentors at each school each year. This would result in approximately 20 students being served at each school. If students exit the program prior to graduation, additional students previously identified by the design team will be paired with the available mentors. Students will only cycle out of the program upon graduation.

Lessons for Leadership

The scholar practitioners established the ultimate aim of reducing high school dropouts in Robbins County Schools and Tillman County Schools. Both scholar practitioners worked as district leaders within their respective school systems but were

not based in the high schools where the disquisition improvement initiative was implemented. Routine visits to the schools and several meetings with the design and implementation teams were facilitated by each scholar practitioner. Leading the improvement initiative from a distance increased the difficulty in assessing fidelity of implementation and delayed information exchange between the scholar practitioner and program participants. A limited amount of personal interactions between the scholar practitioners and program participants may have negatively impacted the *human side* of this program. The human side of change is understanding how individuals interact with each other in a system (Langley et al., 2009).

While leading the initiative from a distance posed some challenges, there were also advantages specific to the scholar practitioners' district-level leadership roles; these roles provided the scholar practitioners a broader perspective when addressing student needs. Awareness of and access to school district and community supports were some of the most evident and impactful of these advantages.

The design team meetings, implementation team meetings, and professional development were very important in establishing the why, what, and how of the school-based mentoring program implementation and for establishing communication between the scholar practitioner and program participants. Langley et al.'s (2009) Model for Improvement takes a team approach to the improvement process by establishing a team comprised of key individuals in an organization that will help develop and guide improvement initiatives. Another advantage of the scholar practitioners' district-level roles was the ability to easily assemble a design team with key district- and school-level professionals. This contributed to the swift productivity of the team, which operated with

leadership shared among the team members. This distributed leadership approach, as Northouse (2013) explains, "involves the sharing of influence by team members" (p. 365), who individually step out to lead when needed and, when appropriate, step back to allow others to lead. In most cases, the scholar practitioners facilitated the work of the design and implementation teams and relied on team members to make complex decisions. The development of a shared goal, the understanding of the problem identified within the localized context, and the utilization of improvement science by these teams provided the foundation for a Networked Improvement Community (NIC). One characteristic of an NIC is that a group of professionals seek to accomplish a common, clearly defined, and measureable goal (Bryk et al., 2015). Such goals of the improvement initiative included improved student attendance and grades, increased extracurricular participation, reduced discipline incidents, and continued participation in the mentoring program. Northouse (2013) describes that leadership is not a linear, one-way event, but rather an interactive event. The collective, interactive efforts of the NIC were vital to this program.

Lessons for Social Justice

Social justice within a society encompasses the fair, just, ethical, and equitable treatment of human beings. Our society is plagued with injustices despite the efforts of many to abolish such. Our schools, being a microcosm of society, often breed intentional and unintentional discriminatory practices and inequities. And like our society, despite repeated and varied improvement efforts, schools "continue to fall far short in attempts to provide quality education for students of African descent and other so-called minority and poor children in the United States" (Lomotey, 2013, p. 149).

Theoharis (2007) contends that "Marginalized students do not receive the education they deserve unless purposeful steps are taken to change schools on their behalf with both equity and justice consciously in mind" (p. 250). This improvement initiative took purposeful steps to ensure students receive what they deserve: an enhanced educational experience that empowers students to persist in school, earn a high school diploma, and succeed post graduation. The steps taken directly addressed the relational aspect of the school environment and focused on equitable, individualized interventions for students at risk of dropping out.

Delpit (2012) offers 10 factors that can assist with the development of quality educational experiences for urban students. These factors are essential for providing a quality education for all students, especially those who are marginalized in our society. This improvement initiative targeted multiple factors (Introduction, para. 17).

- Factor #1: *Recognize the importance of a teacher and good teaching, especially for the "school dependent" children of low-income communities.* The mentoring program focused on the important role of teachers and other school staff. Mentors were explicitly made aware of the important role that they play in the lives of their mentees and students. This role encompasses instruction, guidance, accountability, and support.

- Factor #5: *Recognize and build on children's strengths.* Mentors were trained to assist students in identifying their strengths. This was an area of focus for mentoring sessions, allowing students to reflect on their strengths and to plan for building upon them.

- Factor #7: *Create a sense of family and caring in the classroom.* The mentoring program provided an opportunity for students to see the extent to which they are cared for by the school family. Mentors spent time establishing trusting relationships with students. It was evident from student comments and PSSM responses that they perceived being in a caring atmosphere.

- Factor #8: *Monitor and assess students' needs and then address them with a wealth of diverse strategies.* This is one of the foundational aspects of the improvement initiative. Each participating student had one caring adult who closely monitored the student's progress, determined the needs of the student, intervened with basic and intensive interventions, and connected the student to appropriate supports.

- Factor #9: *Honor and respect the children's home cultures.* Mentors were trained in cultural sensitivity when working with students and parents. They were encouraged to continuously seek to expand their cultural understanding and to build on students' cultural capital (Christenson et al., 2012, pp. 64-65).

Ultimately, the responsibility for ensuring that these essentials for a quality education are addressed at the school level falls on the shoulders of the school administrative team. According to Theoharis (2007), "Social justice in schools has not happened by chance. It takes more than what traditionally has been understood as good leadership to achieve greater equity" (p. 253). All school leaders—administrators, teacher leaders, support staff—must intentionally enact social justice and equity throughout all aspects of the school environment. While the scholar practitioners did not serve in a school-level administrative position, this initiative shows that district administration can support

school-level leaders in these equity efforts. As Honig (2006) explains, central office personnel can be "boundary spanners" (p. 358) and trailblazers in the implementation of new programs or policies, as the goal of central office personnel is to support the school-level enterprise of teaching and learning.

Connectedness Matters

Despite the wealth of information presented thus far, one may be wondering: why does the work of this improvement initiative matter? It has impacted the lives of 17 young adults, each with their own unique and compelling story.

Adele, Freshman. Adele, who had 92 reported absences and earned only four of eight credits in 2016-17, is able to explore possible careers with her mentor as they review her career interest inventory results. A young lady who was completely disengaged from school is now headed in the right direction with an A average in all of her classes and only three absences thus far this school year.

Ted, Freshman. Ted joined the junior varsity wrestling team, never having participated in school sports. His perseverance on the team is inspiring. The wrestling coach and his mentor provide continuous support as he manages this new commitment. He showed improvement in school connectedness and extracurricular participation. His grades remained the same. He has no absences and no reported discipline incidents.

Berry, Freshman. Barry also joined the junior varsity wrestling team, never having participated in school sports. He has experienced many wins at the wrestling matches. His wrestling coach and mentor cheer him on and help him to manage the challenges that come along with his new commitment. Berry has improved in school

connectedness, grades, discipline incidents, and extracurricular participation. His absences increased from zero to three thus far this year.

Adam, Freshman. Adam passed four of eight courses last school year. This year he is passing all of his classes with improved attendance and reduced discipline incidents. He has the support of a mentor who specifically selected him for his mentee. Adam has a caring adult who chose to partner with and support him.

Katrina, Freshman. Katrina, who showed no improvement in any of the measures, has the support of her mentor, who, according to Katrina, "understands how I am feeling" and is "always there to help." This support will be truly beneficial as Katrina continues to deal with a recent family structure change.

Alexis, Freshman. Alexis has found comfort in the time spent with her mentor and has demonstrated improvements in her grades and school connectedness. She and her mentor discuss career goals and are making plans to make these goals a reality.

Curtis, Freshman. Curtis had a great start to the school year with dramatic improvements in grades and an increasing sense that he was cared for in the school. He moved out of state after nine weeks of school. After two months of not being in school, he enrolled in his new school. We are hopeful that he will able to transfer his newly acquired positive habits to his new environment. This may prove challenging as he and his family continue to deal with the grief from his mother's passing.

Tyson, Freshman. Tyson only showed improvement in one area—extracurricular participation. Facing a possible move to a therapeutic home, he and his family will need tremendous support in the coming months.

Brenda, Freshman. Brenda has shown some improvement in grades but is understandably distracted by family issues. She is Tyson's sister. Brenda is fortunate to have the support of her mentor, who Brenda claims "is my favorite teacher and she understands me."

Eric, Freshman. Eric's prospects of persisting in high school to graduation were slim prior to participating in the mentoring program. His quiet and polite demeanor allowed him to often fly under the radar. He has had little academic success throughout his school years. Currently reading on a second or third grade level, high school courses posed too great a challenge. Several weeks into the current school year, it seemed that Eric had given up. He avoided his mentor, had excessive absences, and rarely turned in assignments. With a caring teacher, a persistent mentor, and a peer tutor, Eric has renewed his hope and improved his grades from the single digits to the 70's. The work is hard, but he has the supports in place to persist.

Jason, Sophomore. Jason has shown improvement in his attendance and his mentor has supported him in navigating social and emotional struggles at school. He continues to participate in the choral program and enjoys performing in front of his peers.

Katie, Sophomore. Kate joined the basketball team and showed improvement in extracurricular participation. According to Kate's mentor, "she's very sweet and polite, but I don't feel we have a connection." Her mentor has continued to work with her and has focused on strategies to strengthen their relationship. She and her mentor continue to work on academic and attendance goals.

Toby, Freshman. Toby participated in JROTC and football this year. He demonstrated improvement in extracurricular participation but not in the other

domains. He and his mentor meet frequently, and his mentor continues to support him in academic and career goals.

Andy, Sophomore. Andy, who showed no improvement in any of the measures, has the support of his mentor, who, according to Andy, "is just really motivational" and "understands how stressful school can be." Andy and his mentor have been connecting during lunch each day to continue working on academic and life goals.

Jodi, Freshman. Jodi has demonstrated improvements in her discipline incidents and school connectedness. She and her mentor discuss school goals, and, according to Jodi, her mentor "pushes her to do better."

Carrie, Sophomore. Carrie is passing all of her classes with improved grades and attendance. She has a mentor who specifically selected her as a mentee for this improvement initiative. The mentor and mentee share similar extracurricular interests, which has allowed them to make a connection with each other. During their meetings, they discuss career goals and what steps must be taken to reach these goals.

Amy, Freshman. Amy had a remarkable beginning to the 2017-18 school year. She has improved her attendance, discipline, school connectedness, and grades during this improvement initiative. The most dramatic improvement occurred with her grades, an improvement from failing three courses last year to passing all of her courses and having an overall A average for the first reporting period this year.

To truly understand the impact of mentoring, one has to view it case by case. The benefits are many, and despite negative changes in some indicators, we cannot attribute those changes to the mentoring program. What is certain from the multiple data sources presented here, is that through the course of this initiative, ***educators have become a part***

of each student's story. More importantly*, educators have received a unique opportunity to assist students in writing a better ending*. Herein lies the true power of connection.

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APPENDICES

Appendix A: Disquisition Conceptual Framework

EDL 793: Disquition Conceptual Framework

Renee Collins and Brian Weaver

Problem Statement
Students are dropping out of Rutherford County Schools and Transylvania County Schools prior to graduation.

Grade Retention

Poor Attendance

Poor Academic Achievement

Poverty

Discipline Referrals

Limited School Connectedness

Low Extracurricular Participation

Improvement Initiative
Develop a comprehensive program for increasing student connectedness in school by pairing teachers with high school students at risk of dropping out.

Establish district-level and school-level planning and implementation teams

Determine methods for identifying potential dropouts

Provide staff mentors with professional development focused on strategies to reduce dropouts

Connect staff mentors with students

Implement improvement initiative

Conduct PDSA cycles each six-weeks: adapting, expanding, or abandoning components of the improvement initiative as necessary

Desired Outcomes

Short-Term Goals
Improved student attendance, grades, extracurricular activity participation, discipline referals, classroom engagement; continued student program involvement

Long-Term Goal
All students graduate from high school

Appendix B: Consent Form to Participate for Robbins County Schools

Western Carolina University
Consent Form to Participate in a Research Study

Project Title: Teachers and Students Connect

Principal Investigator: Dr. Brandi Hinnant-Crawford, Assistant Professor of
Educational Research at Western Carolina University

Description and Purpose of the Research: A school-based mentoring program, Teacher
and Student Connect (TASC), will focus on assigning teachers as mentors to high school
students that may be struggling with academics, behavior, and attendance. Mentors will
work with students to improve these areas and will work on increasing their sense of
belongingness and connectedness to school. The ultimate purpose of this program will be
to decrease high school dropouts.

What you will be asked to do: This study involves your son or daughter participating in
a weekly meeting with their assigned mentor. This meeting will take place during the
extended lunch period. In addition to weekly meetings with their mentor, students will be
asked to complete an eighteen-item survey in August, October, and December. Two
separate five-item surveys wills be administered in October and November. Each survey
will be administered by their mentor and should not take more than twenty minutes to
complete.

Risks and Discomforts: There are no anticipated risks from participating in this
research.

Benefits: There are no direct benefits to you for participating in this research study. The
study may help us better understand how students view school and whether a high school
mentoring program affects their views. Furthermore, results from this study may help us
to improve educational practices and improve the mentoring program.

Privacy/Confidentiality/Data Security:
All information will remain confidential. Randomly assigned identification numbers,
rather than names, will be used and he or she will not be identified by first or last name in
any publication of the study's results. A pseudonym will be used for direct quotes. You
are able to remove your child from the mentoring program at any time. Your child may
discontinue their participation in the program at any time, without penalty of any kind.
Your child may also refrain from answering any items or questions that cause them
discomfort.

Voluntary Participation: Participation is voluntary and you have the right to withdraw
your consent or discontinue participation at any time without penalty. If you choose not

to participate or decide to withdraw, there will be no impact on your student's academic standing at school.

Compensation for Participation: Participants will not receive payment, extra credit, or other forms of compensation for participating in the program.

Contact Information: For questions about this study, please contact Renee Collins at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮. You may also contact Dr. Brandi Hinnant-Crawford, the principal investigator and faculty advisor for this project, at ▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮▮.

If you have questions or concerns about your treatment as a participant in this study, you may contact the Western Carolina University Institutional Review Board through the Office of Research Administration by calling 828-227-7212 or emailing irb@wcu.edu.

My signature below indicates that I give consent for my child, _____, to participate in this study. I understand what is expected of my child and that his/her participation is voluntary.

Parent/Guardian Name (printed):_____

Signature: _____   Date: _____

Appendix C: Consent Form to Participate for Tillman County Schools

Western Carolina University
Consent Form to Participate in a Research Study

Project Title: Teachers and Students Connect

Principal Investigator: Dr. Brandi Hinnant-Crawford, Assistant Professor of
Educational Research at Western Carolina University

Description and Purpose of the Research: A school-based mentoring program, Teacher
and Student Connect (TASC), will focus on assigning teachers as mentors to high school
students that may be struggling with academics, behavior, and attendance. Mentors will
work with students to improve these areas and will work on increasing their sense of
belongingness and connectedness to school. The ultimate purpose of this program will be
to decrease high school dropouts.

What you will be asked to do: This study involves your son or daughter participating in
a weekly meeting with their assigned mentor. This meeting will take place during the
extended lunch period. In addition to weekly meetings with their mentor, students will be
asked to complete an eighteen-item survey in August, October, and December. Two
separate five-item surveys wills be administered in October and November. Each survey
will be administered by their mentor and should not take more than twenty minutes to
complete.

Risks and Discomforts: There are no anticipated risks from participating in this
research.

Benefits: There are no direct benefits to you for participating in this research study. The
study may help us better understand how students view school and whether a high school
mentoring program affects their views. Furthermore, results from this study may help us
to improve educational practices and improve the mentoring program.

Privacy/Confidentiality/Data Security:
All information will remain confidential. Randomly assigned identification numbers,
rather than names, will be used and he or she will not be identified by first or last name in
any publication of the study's results. A pseudonym will be used for direct quotes. You
are able to remove your child from the mentoring program at any time. Your child may
discontinue their participation in the program at any time, without penalty of any kind.
Your child may also refrain from answering any items or questions that cause them
discomfort.

Voluntary Participation: Participation is voluntary and you have the right to withdraw
your consent or discontinue participation at any time without penalty. If you choose not

to participate or decide to withdraw, there will be no impact on your student's academic standing at school.

Compensation for Participation: Participants will not receive payment, extra credit, or other forms of compensation for participating in the program.

Contact Information: For questions about this study, please contact Brian Weaver at ████████████████████████. You may also contact Dr. Brandi Hinnant-Crawford, the principal investigator and faculty advisor for this project, at ██████████████████████.
If you have questions or concerns about your treatment as a participant in this study, you may contact the Western Carolina University Institutional Review Board through the Office of Research Administration by calling 828-227-7212 or emailing irb@wcu.edu.

My signature below indicates that I give consent for my child,
_____, to participate in this study. I understand what is expected of my child and that his/her participation is voluntary.

Parent/Guardian Name (printed):_____

Signature: _____   Date: _____

Appendix D: Assent Form for Robbins County Schools

LETTERHEAD

May __, 2017

Dear Student:

My name is Renee Collins. I am a district administrator for Robbins County Schools and a doctoral student at Western Carolina University. I am asking you to participate in a project that examines the importance of school-based mentoring programs and the impact on student feelings of being connected to school. I am asking you to participate in a teacher and student mentor program during this school year. You will meet once a week with an assigned mentor, that teaches in this school, to work on specific issues that may make reaching high school graduation more difficult. This will take place during the school day and won't remove you from your regularly scheduled classes.

Your parents or legal guardians have already given permission for you to participate in this study, but you do not have to participate if you choose. You may quit this study at any time by simply letting me know that you don't want to participate any longer. Your participation in this study will not affect your grades in any way. There are no known risks involved in this study and you will not receive compensation for your participation. If you have any questions about this study, please contact Mrs. Renee Collins, ████████████████████████, or your assigned mentor.

Sincerely yours,

Renee Collins
████████████

I agree to participate in this research project and I have received a copy of this form.
Student
Name:_____ Date:_____
Student Signature:_____

I have explained to the above named individual the nature and purpose, benefits and possible risks associated with participation in this research. I have answered all questions that have been raised and I have provided the participant with a copy of this form.

Researcher
Signature:_____ Date:_____

Appendix E: Assent Form for Tillman County Schools

LETTERHEAD

May __, 2017

Dear Student:

My name is Brian Weaver. I am a district administrator for Tillman County Schools and a doctoral student at Western Carolina University. I am asking you to participate in a project that examines the importance of school-based mentoring programs and the impact on student feelings of being connected to school. I am asking you to participate in a teacher and student mentor program during this school year. You will meet once a week with an assigned mentor, that teaches in this school, to work on specific issues that may make reaching high school graduation more difficult. This will take place during the school day and won't remove you from your regularly scheduled classes.

Your parents or legal guardians have already given permission for you to participate in this study, but you do not have to participate if you choose. You may quit this study at any time by simply letting me know that you don't want to participate any longer. Your participation in this study will not affect your grades in any way. There are no known risks involved in this study and you will not receive compensation for your participation. If you have any questions about this study, please contact Mr. Brian Weaver, ████████████████████, or your assigned mentor.

Sincerely yours,

Brian Weaver

████████████████

I agree to participate in this research project and I have received a copy of this form.
Student
Name:_____ Date:_____
Student Signature:_____

I have explained to the above named individual the nature and purpose, benefits and possible risks associated with participation in this research. I have answered all questions that have been raised and I have provided the participant with a copy of this form.

Researcher
Signature:_____ Date:_____

Appendix F: Mentor Consent Form for Robbins County Schools

Western Carolina University
Mentor Consent Form to Participate in a Research Study

Project Title: Teachers and Students Connect

Principal Investigator: Dr. Brandi Hinnant-Crawford, Assistant Professor of
Educational Research at Western Carolina University

Co-Investigator: Renee Collins, Robbins County Schools

Description and Purpose of the Research: A school-based mentoring program, Teacher
and Student Connect (TASC), will focus on assigning teachers as mentors to high school
students that may be struggling with academics, behavior, and attendance. Mentors will
work with students to improve these areas and will work on increasing their sense of
belongingness and connectedness to school. The ultimate purpose of this program will be
to decrease high school dropouts.

What you will be asked to do: Mentors will be asked to participate in a two-day
professional development activity during the summer of 2017. This professional
development will provide strategies, content, and structured guidance for the school-
based mentoring program. Mentors will be asked to meet a minimum of once a week
with their assigned mentee during the 2017-18 school year. This meeting will last
approximately 25-30 minutes and will take place during Topper Time or another
scheduled time that is more convenient for both the student and mentor. In addition, the
mentor will keep a mentor log, complete mentor surveys, and participate in focus group
meetings.

Risks and Discomforts: There are no anticipated risks from participating in this
research.

Benefits: There are no direct benefits to you for participating in this research study. The
study may help us better understand how students view school and whether a high school
mentoring program affects their views. Furthermore, results from this study may help us
to improve educational practices and improve the mentoring program.

Privacy/Confidentiality/Data Security: All information will remain confidential.
Student participants in the project will not be known to each other or to anyone other than
their mentor. Mentor logs will be kept secure in the mentors locked desk until submitted
to the co-investigators. No published data or data shared beyond the research team will
identify the participants. Randomly assigned identification numbers, rather than names,
will be used and he or she will not be identified by first or last name in any publication of
the study's results. A pseudonym will be used for direct quotes. Pseudonyms will be
utilized instead of actual names in written reports and during design team meetings. So as

not to draw attention to participating students, mentoring sessions will be scheduled during a flexible period during the school day. During this period all students participate in a rotation of various instructional and non-instructional elective programming. If the flexible period is not suitable for meetings, another time will be scheduled that is convenient for both the student and mentor. Data will be stored on a password protected 256 bit encrypted USB flash drives and stored in a locked file cabinet in office of co-investigator at the school system's central office building.

Voluntary Participation: Participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. If you choose not to participate or decide to withdraw, there will be no impact on your employment status.

Compensation for Participation: Participants will receive continuing education units for attending the professional development activity in the summer. Participants will not receive payment or other forms of compensation for participating in the program.

Contact Information: For questions about this study, please contact Renee Collins at ███ ████████████████████████. You may also contact Dr. Brandi Hinnant-Crawford, the principal investigator and faculty advisor for this project, at ██████████████████████████████.

If you have questions or concerns about your treatment as a participant in this study, you may contact the Western Carolina University Institutional Review Board through the Office of Research Administration by calling 828-227-7212 or emailing irb@wcu.edu.

My signature below indicates that I consent to participate in this study. I understand what is expected of me and understand that my participation is voluntary.

Mentor Name (printed):_____

Mentor Signature: _____   Date: _____

Appendix G: Mentor Consent Form for Tillman County Schools

Western Carolina University
Mentor Consent Form to Participate in a Research Study

Project Title: Teachers and Students Connect

Principal Investigator: Dr. Brandi Hinnant-Crawford, Assistant Professor of Educational Research at Western Carolina University

Co-Investigator: Brian Weaver, Tillman County Schools

Description and Purpose of the Research: A school-based mentoring program, Teacher and Student Connect (TASC), will focus on assigning teachers as mentors to high school students that may be struggling with academics, behavior, and attendance. Mentors will work with students to improve these areas and will work on increasing their sense of belongingness and connectedness to school. The ultimate purpose of this program will be to decrease high school dropouts.

What you will be asked to do: Mentors will be asked to participate in a two-day professional development activity during the summer of 2017. This professional development will provide strategies, content, and structured guidance for the school-based mentoring program. Mentors will be asked to meet a minimum of once a week with their assigned mentee during the 2017-18 school year. This meeting will take place during the extended lunch period and should last approximately 25-30 minutes. In addition, the mentor will keep a mentor log, complete mentor surveys, and participate in focus group meetings.

Risks and Discomforts: There are no anticipated risks from participating in this research.
Benefits: There are no direct benefits to you for participating in this research study. The study may help us better understand how students view school and whether a high school mentoring program affects their views. Furthermore, results from this study may help us to improve educational practices and improve the mentoring program.

Privacy/Confidentiality/Data Security: All information will remain confidential. Student participants in the project will not be known to each other or to anyone other than their mentor. Mentor logs will be kept secure in the mentors locked desk until submitted to the investigators. No published data or data shared beyond the research team will identify the participants. Randomly assigned identification numbers, rather than names, will be used and he or she will not be identified by first or last name in any publication of the study's results. A pseudonym will be used for direct quotes. Pseudonyms will be utilized instead of actual names in written reports and during design team meetings. So as not to draw attention to participating students, mentoring sessions will be conducted during a flexible period during the school day. During this period all students participate

in a rotation of various instructional and non-instructional elective programming. Data will be stored on a password protected 256 bit encrypted USB flash drives and stored in a locked file cabinet in office of investigator at each school system's central office building.

Voluntary Participation: Participation is voluntary and you have the right to withdraw your consent or discontinue participation at any time without penalty. If you choose not to participate or decide to withdraw, there will be no impact on your employment status.

Compensation for Participation: Participants will receive continuing education units for attending the professional development activity in the summer. Participants will not receive payment or other forms of compensation for participating in the program.

Contact Information: For questions about this study, please contact Brian Weaver at ███████████████████████. You may also contact Dr. Brandi Hinnant-Crawford, the principal investigator and faculty advisor for this project, at ███████████████████████.

If you have questions or concerns about your treatment as a participant in this study, you may contact the Western Carolina University Institutional Review Board through the Office of Research Administration by calling 828-227-7212 or emailing irb@wcu.edu.

My signature below indicates that I consent to participate in this study. I understand what is expected of me and understand that my participation is voluntary.

Mentor Name (printed):_____

Mentor Signature: _____   Date: _____

Appendix H: Psychological Sense of School Membership Questionnaire

PSSM Questionnaire

Student: _____

Date: _____

Please circle the response that best tells how you feel about the following statements.

		Not at all true	A little true	Moderately true	Mostly true	Completely true
1	I feel like a real part of name of school	1	2	3	4	5
2	People here notice when I'm good at something	1	2	3	4	5
3	It is hard for people like me to be accepted here	1	2	3	4	5
4	Other students in this school take my opinions seriously	1	2	3	4	5
5	Most teachers at name of school are interested in me	1	2	3	4	5
6	Sometimes I feel as if I don't belong here	1	2	3	4	5
7	There's at least one teacher or other adult in this school I can talk to if I have a problem.	1	2	3	4	5
8	People at this school are friendly to me	1	2	3	4	5
9	Teachers here are not interested in people like me	1	2	3	4	5
10	I am included in lots of activities at name of school	1	2	3	4	5
11	I am treated with as much respect as other students	1	2	3	4	5
12	I feel very different from most other students here	1	2	3	4	5
13	I can really be myself at this school	1	2	3	4	5
14	The teachers here respect me	1	2	3	4	5
15	People here know I can do good work	1	2	3	4	5
16	I wish I were in a different school	1	2	3	4	5
17	I feel proud of belonging to name of school	1	2	3	4	5
18	Other students here like me the way I am	1	2	3	4	5

Appendix I: Mentor Log

Teachers and Students Connect

Student: _____   Date Range: _____
School: _____   Mentor: _____

Connect

Communication		M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F
With Student	Meeting																				
	Email																				
	Written																				
	Conversation																				
With Family	Left message																				
	Note home																				
	Phone conversation																				
	Meeting																				
	In community																				
Communication with school staff																					
Communication with outside agency																					

Support

Intervention	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F	M	TU	W	TH	F
Academic																				
Behavior																				
Motivation																				
Problem solving																				
Facilitate tutoring																				
Facilitate participation in community																				
Faciliate participation in school activity																				
Attendance																				
Student school supplies																				
Student personal supplies																				
Other: _____																				
Other: _____																				
Other:																				

Weekly summary of meeting notes

Date:

Notes:

Date:

Notes:

Date:

Notes:

Appendix J: Mentor Survey

Name: _____

School: _____

Date: _____

1. How many times did you and your mentee meet during the last six weeks?
2. Do you feel like you are connecting with your mentee? If so, how?
3. Do you think your mentee's school connectedness is increasing?
4. What additional support does your mentee need? (For example: supplies, resources, services, etc.)
5. What additional resources do you need to better fulfill your mentor responsibilities?

Appendix K: Student Survey

Name: _____
School: _____
Date: _____

1. How many times did you and your mentor meet during the last six weeks?
2. Do you feel like you are connecting with your mentor? If so, how?
3. What suggestions do you have to improve the time you spend with your mentor?
4. Check the topics that you and your mentor discussed?
   ____ grades
   ____ attendance
   ____ behavior
   ____ participation in activities (clubs, sports, hobbies, etc.),
   ____ career plans
   ____ college plans
   ____ academic goals
   ____ personal goals
   ____ other:

   _____

5. How has your participation impacted you? Benefits? Setbacks?

Appendix L: Administrator Survey

Name: _____
School: _____
Date: _____

1. If so, explain. In what ways, if any, has the mentoring program impacted the school?
2. Has instructional time been impacted with the implementation of the mentoring program? If so, explain.
3. Do you believe that student participants are being impacted by this program? If so, how?
4. In what ways, if any, does the mentoring assignment impact teacher responsibilities in the classroom? In the school?
5. What improvement suggestions do you have regarding the mentoring program?

Appendix M: Mentor Interest Survey

We are seeking mentors to work with students who are highly at risk of leaving high school prior to graduation.

It is important that participants:
- are willing to mentor
- are enthusiastic and passionate about building relationships with students
- are non-judgmental of others
- maintain high expectations for all students
- work cooperatively with others (school personnel, families, personnel from outside agencies)
- believe that ALL students
  - can learn
  - can change their level of school engagement
  - can develop academic and behavioral competencies
  - can acquire problem solving skills

Mentors will be asked to participate in a professional development activity during the summer of 2017. This professional development will provide strategies, content, and structured guidance for the school-based mentoring program. Mentors will be asked to meet a minimum of once a week with their assigned mentee during the 2017-18 school year. In addition, the mentor will keep a mentor log, complete mentor surveys, and participate in focus group meetings.

If you are interested in serving as a school-based mentor for the 2017-18 school year, please complete the following questions.

1. Why do you think you are well suited to serve as a mentor for students at risk of dropping out?
2. What is your name?
3. What is your current position at your school?
4. When would you be available to meet/communicate with your mentee? (Mark all that apply.)
        __Before school
        __During lunch
        __After School
        __Other
5. Please indicate the student grade level that you are most interested in working with:
        __9th grade
        __10th grade
        __Either 9th or 10th grade