Evaluation of PBIS Implementation in an Urban School District

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This study examined the use of a Positive Behavioral Intervention System (PBIS) to promote a positive school culture. PBIS focuses on promoting a positive school culture through behavioral interventions specific to the school, and providing feedback to students to reinforce positive behaviors (Contractor & Staats, 2014). The study focuses on the current implementation and evaluation of PBIS in six schools in a large urban district in Pennsylvania. Secondary data analysis was the methodology used to retrospectively construct a theory of action and a logic model. The logic model was then used to evaluate PBIS implementation related to adequate resources and activities, and to determine if expected outputs/outcomes occurred. Then existing data were used to further evaluate the expected outcomes/outputs aligned to the logic model: three-year trend of school suspensions, three-year trend of multidisciplinary referrals, suspension rates and attendance rates; three-year survey results for the survey administered to teachers called the Teaching and Learning Conditions (TLC) Survey and three-year survey results for a survey administered to students called the Tripod Student Perceptions Survey.

Based on the findings of this study, there were three implications. The first implication is that developing and using a theory of action and logic model might assist with implementation of PBIS. The second implication is that collection and use of data are important to guide implementation of PBIS. The third implication is that training and coaching is essential to the implementation of PBIS. There are also three recommendations for practice. The first is to put data into practice, the second is how to sustain the effort and the third is to include stakeholders in

setting goals and creating policy, sharing information and accomplishments with the community, and making PBIS a major goal of the school system.

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Preface

Writing a dissertation not only requires a lot of commitment from the writer, but from their family as well. I would like to thank my husband Brandon and my sons Brandon and Alexander for their constant patience, love and support during this journey. By setting a good example for my children, I hope they too will work to reach their highest potential.

I would like to thank my parents for instilling in me the importance and power of education. Without their constant support, this would not be possible.

To my chair Dr. Cynthia Tananis, thank you for challenging me to become a better learner, thinker and writer. Your time and commitment to seeing me succeed will always hold a special place in my heart.

I will be forever grateful to have started and ended my post-secondary education at the University of Pittsburgh, Hail to Pitt!

1.0 Introduction

1.1 Background

In the last four decades, there has been an increase in the number of students criminalized in school. The school-to-prison pipeline "refers to the policies and practices that push our nation's school children, especially our most at-risk children, out of classrooms and into the juvenile and criminal justice systems. This pipeline reflects the prioritization of incarceration over education" (ACLU, 2015). In one study, the Council of State Governments found that in the state of Texas almost six in 10 public school students were suspended between their seventh and twelfth grade years of school (Fabelo, Thompson, Plotkin, et al., 2011). Those students suspended or expelled were three times as likely to be a part of the juvenile justice system the next school year (Fabelo, Thompson, Plotkin, et al., 2011). Finally, African-American students had a 31 percent higher likelihood of a disciplinary action at school than white and Hispanic students (Fabelo, Thompson, Plotkin, et al., 2011).

Exclusionary discipline practices are a gateway to the school-to-prison pipeline (Darensbourg, Perez, & Blake, 2010). In the Breaking School Rules Report (2011), it was found that students were more likely to enter the juvenile justice system after being suspended or expelled. The report went on to share that only 3 percent of discipline consequences were for state mandates for disciplinary action; the remaining 97 percent were for discretionary discipline determined by school administrators (Fabelo, Thompson, & Plotkin, et al., 2011).

In order to address student behavior concerns that lead to suspensions and serve as a pipeline to prison, some school districts are implementing strategies such as Positive Behavioral

Interventions and Supports Systems (PBIS). PBIS focuses on promoting a positive school culture through behavioral interventions specific to the school, and providing feedback to students to reinforce positive behaviors (Contractor & Staats, 2014). PBIS uses prevention and intervention strategies in the classroom to develop positive, consistent, and safe learning environments through relationship building, which, in turn, supports academic, social, emotional, and behavioral outcomes for every student in a school (OSEP National Technical Assistance Center on PBIS, 2017). Schools throughout the country use PBIS as a tool to provide students with consistent and predictable rituals and routines.

1.2 Purpose and Setting of the Study

The purpose of this study is to research the implementation of PBIS in six schools in a large urban school district, representing the following grade bands: K-5, K-8, 6-8, 6-12, 9-12, and a school that enrolls only students who receive special education services. PBIS is a significant part of my practice as an administrator. It is used to promote positive behaviors, which, in turn, could reduce suspensions. For this study, the focus on reducing disciplinary action in urban schools is of particular interest to me because of the connection between students serving suspensions and the school-to-prison pipeline.

Urban educational settings have a variety of demographic, structural, and cultural challenges. The demographic challenges that appear in urban settings relate to higher numbers of economically disadvantaged students, racially and ethnically diverse students, immigrants and English language learners, and higher student mobility rates (Kincheloe, 2004, 2010). In addition to these factors, urban schools see more segregation by race and economic status (Orfield, 2004)

and subsequently impact the effectiveness of structure and processes related to declining student achievement (Rumberger & Palardy, 2005). The study will retrospectively create a logic model from the district's theory of action for PBIS implementation, which will then be used in a formative evaluation of the implementation.

A theory of action identifies a problem and the subsequent actions that must take place in order to provide a resolution (W.K. Kellogg Foundation, 2004). By clarifying the theory of action, it can then be used to create a logic model. The logic model will be used to evaluate the PBIS implementation resources, major activities, and major outputs/outcomes. A logic model is defined as a graphic representation of how "the relationships among the resources you have to operate your program and the activities you plan will produce the changes or results you hope to achieve" (W.K. Kellogg Foundation, 2004, p.1). The logic model will then be used to complete a formative evaluation of the implementation based on the components defined in the logic model. A formative evaluation is intended to evaluate the efforts of system improvement (Patton, 2005) by providing feedback that could help improve outcomes (Patton, 1999).

Sources of evidence for this study will focus on secondary analysis of existing district documents, using data not created by the researcher (Schutt, 2006) to retrospectively construct a theory of action and accompanying logic model. Once the logic model is created, it will be used to evaluate the adequacy of resources and activities and whether or not outputs/outcomes to date have occurred and if they are aligned with the logic model.

1.3 Research Questions

To better understand the implementation of PBIS in the school district, this study will use district documents and school-level data from six schools to analyze and evaluate PBIS implementation. The goal is to examine PBIS implementation and outcomes to data.

The research questions for this study are as follows:

1. What would be the retrospective theory of action and resultant logic model for the PBIS plan and implementation applied in a set of schools in a large urban district in Pennsylvania?
2. Based on this retrospective logic model and through formative evaluation, were there adequate resources to fully implement PBIS?
3. Based on the retrospective logic model and through formative evaluation, were there adequate activities to fully implement PBIS?
4. What were the expected outputs/outcomes to date, have they occurred and are they aligned with the logic model?

1.4 Significance of the Study

As a result of the full district implementation of PBIS, a study to evaluate the implementation was necessary. With feedback on the resources and early outcomes, the district can adjust the plan for PBIS implementation to better meet the needs of the students in the school district.

2.0 Review of Literature

2.1 What is the School-to-Prison Pipeline?

Historically, the way that children have been disciplined for crime has changed several times since the 1800s. Prior to the Progressive Era of 1900-1918, children over the age of seven were imprisoned in adult prisons (Einstein Law, 1997-2015). Social and political reforms evolved to change the way child offenders were treated. Rather than being imprisoned, reformers believed that children needed to be rehabilitated to ensure they were positive contributors to society rather than habitual offenders, and their cases were heard in an informal court for juveniles (Einstein Law, 1997-2015). During these trials, information was presented outside of the legal facts, were considered by the judges, and often ended with children placed in facilities that were more like orphanages (Einstein Law, 1997-2015). Prior to 1967, children were not protected by the Fifth and Fourteenth Amendments. Children were protected by these amendments until the Supreme Court confirmed that juvenile offenders should be provided due process and access to the following rights as minors: receive notification of charges, obtain legal counsel, allowed to have confrontation and cross-examination, and the right to use the Fifth Amendment and to be tried in a formal court setting (Einstein Law, 1997-2015). Thus began the shift away from rehabilitation and to incarceration.

When school discipline policies began changing in the 1970s, the school-to-prison pipeline emerged. The school-to-prison pipeline is defined as the use of the juvenile justice system to address problems that occur within the school system (ACLU, 2015). Rather than handling minor student infractions within the school, the school seeks criminal charges to address infractions. This

is often a result of zero-tolerance discipline policy that is used to address negative behaviors through criminalization, rather than using other behavioral, social, and mental health resources to address the concerns. Fewer than 4 percent of students were suspended per year in the 1970's (NYCLU, 2013). Comparatively, in the 2011-2012 school year, of the 49 million students enrolled in public schools, 3.5 million, or 7.1 percent, were suspended in school; 3.45 million, or 7 percent, were suspended out of school; and 130,000 were expelled (U.S. Department of Education, 2016).

2.1.1 Zero Tolerance

Zero tolerance requires a specific action to be taken for certain forms of misconduct, with the goal of removing the behavior from the school and deterring others from exhibiting the same behavior (Curtis, 2014). This type of exclusion does not focus on progressive discipline, but, rather, swift exclusionary discipline. Darensbourg, Perez, & Blake (2010), argue that exclusionary discipline practices are a gateway to the school-to-prison pipeline. Specifically, the idea that students who are exposed to exclusionary discipline (e.g., detention, out-of-school suspensions, and alternative placement) and zero tolerance policies (e.g., predetermined discipline strategies that are punitive and severe) are more likely to become part of the judicial system (Darensbourg, Perez & Blake, 2010). This type of discipline was originally justified by the need to reduce drugs, weapons, and violence in schools. The first form of zero tolerance policies started in the 1980s to deter students from using drugs and then expanded to include weapons policies in 1994 when the Gun Free Schools Act was passed. This act directed schools to expel students for one year if they were found in possession of a weapon on school grounds (U.S. Department of Education, 1994). This policy allowed school administrators to determine the definition of a "weapon," which means a weapon in one school could differ from a weapon in another. The premise was that these types

of policies promote fair, consistent, firm discipline, regardless of a child's race (Curtis, 2014). In the 1996-1997 school year, there were zero tolerance policies for firearms in 94 percent of public schools, for other weapons in 91 percent, for drugs 88 percent, for alcohol 87 percent, and for violence 79 percent of public schools (Curtis, 2014).

Thereafter, suspensions began increasing rapidly. Suspensions increased for not only weapons, but also for small infractions like class cuts and disrespect, with the purpose of making schools feel safer (Kang-Brown, Trone, Fratello, & Daftary-Kapur, 2013). In 2000, 43 states required schools to report crimes committed on campus to law enforcement; these crimes included not only weapons violations but also fighting and other disruptive behaviors (Curtis, 2014). Referrals to the legal system were also a result of truancy; in 2004, truancy accounted for 35 percent of cases petitioned to the courts, and, of these petitions, 72 percent were reported by schools (Stahl, 2008).

Around the same time, schools began relying on school resource officers to provide support. Between 1997 and 2007, the number of school resource officers increased by more than a third in the United States (NYCLU, 2013). When reviewing the number of students charged by law enforcement for school incidents, there was an increased number of students charged for school incidents after school resource officers were added.

When looking at individuals most affected by exclusionary disciplinary policies, the data points to Black or Latino as well as low income and/or special education students. Specifically, students of color are disproportionately suspended compared to their white peers. As early as 1975, the Children's Defense Fund reviewed data from the U.S. Department of Education Office of Civil Rights and found that Black students were suspended more frequently than white students; this pattern has consistently repeated itself since this initial report (Skiba, Michael, Nardo, & Petersen,

2002). The research also suggests that zero tolerance policies lead to dropping out of school. A study by Justice Matters Institute found that discipline history was a strong predictor of high school dropout and that African-American males were more likely to drop out because of this type of history than any other racial group (Sandler, 2003). The University of California at Los Angeles' Civil Rights Project found that students who drop out are more likely to earn less money, live without health insurance, rely on public assistance, and experience recidivism (Rumberger & Losen, 2016).

The Civil Rights Project (2016) went on to also found that for 67,000 drop outs, the nation lost $35 billion dollars in lost tax revenue and spent more on health care and incarceration. Furthermore, those who are incarcerated, depending on the reason, lose their right to vote, cannot secure proper employment, and do not quality for public assistance. Rather than serving their time and moving on, they are often stuck in a continuous cycle of recidivism.

Furthermore, the New York Civil Liberties Union released a report in 2013 that highlighted how zero tolerance discipline practices can directly affect low income and special education students. The report highlights the fact that since the New York Public Schools increased the number of New York City Police Department staff, metal detectors, and zero tolerance policies, the number of low income and special education students' discipline has increased dramatically (NYCLU, 2013). The report found that special education students were suspended twice as often as general education students. In addition, Black students with special needs serve 14 percent of the suspensions in the district even though they only make up 6 percent of the total public school enrollment. Students who receive a free or reduced lunch account for three-fourths of the total suspension in the district; however, they only make up two-thirds of the total enrollment in the district (NYCLU, 2013). These trends start in preschool. Students with disabilities make up 22

percent of the preschool population, 19 percent of those children suspended once, and 17 percent of those suspended more than one time (U.S. Department of Education Office for Civil Rights, 2014).

Since the implementation of zero tolerance policies, school discipline data has changed; however, the policies have remained the same. As the policies continue to be enforced, school violence is declining, but students of color are receiving more discipline than their white peers and student dropout rates for those affected by the zero tolerance policies are climbing (Curtis, 2014). In 1992, for everyone 1,000 students, 200 were victimized by violence. In 2011, the statistic was 50 victims for every 1,000 students (Robers, et al., 2013). At the same time, nonfatal events involving youth outside of school fell at the same rate from 1992 to 2011 (Curtis, 2014). The reduction in the number of victims decreased in both settings.

2.2 Trends in School-to-Prison Data

This section will review trends in school discipline data. Specifically, it will focus on the impact in the following categories: gender, race, socioeconomic status, and mental health.

2.2.1 Impact on Males

When considering the impact of suspensions on males, it is important to know that males are four times as likely to be suspended as females and make up of over 75 percent of all discipline referrals (Gregory, 1996; Imich, 1994). In addition, from 1985 through 2009, delinquent crimes reported among boys increased by 17 percent from 932,300 to 1,088,600 (Conrad, Placella, Tolou-

Shams, Rizzo, & Brown, 2014). The effects of school suspensions do not stop at high school. Instead, they continue to plague male students into adulthood: 68 percent of males imprisoned in state and federal prisons do not have high school diplomas (Amurao, 2013). For individuals without a high school diploma and with criminal records, opportunities for advancement are very limited.

2.2.2 Impact on Females

While males are more likely to be suspended than females, it is important to know that female delinquent crimes increased by 86 percent from 1985- 2009 (from 222,900 to 415,600 crimes) (Conrad, Placella, Tolou-Shams, Rizzo, & Brown, 2014). The increase in delinquent crimes has also increased the number of females detained, on probation, and in placement. The number of females detained has increased by 6 percent, by 5 percent for probation, by 5 percent in placement from 1992-2013 (Sherman & Balck, 2015).

As we explore the effect of school discipline on young girls, we can go right to the data. In the 2011-2012 school year, 12 percent of Black girls, 4 percent of Latina girls, and 2 percent of white girls received an out-of-school suspension, with 19 percent for special education Black girls (Office of Juvenile Justice and Delinquency Prevention, 2014). There is a disparity between the number of Black and Latina girls who are suspended and the number of white girls who are suspended.

Female involvement in the juvenile justice system usually stems from low-level, non-violent offenses (Office of Juvenile Justice and Delinquency Prevention, 2014). The report, *Girls, Status Offenses and the Need for a Less Punitive and More Empowering Approach* finds that "between 1995 and 2009 the number of petitioned cases for curfew violations for girls grew by

twenty-three percent vs. only one percent for boys. The number of petitioned cases for liquor law violations for girls grew by forty-one percent vs. only six percent for boys. During that same period, the number of petitioned runaway cases for girls decreased by twenty-five percent, yet girls still comprised fifty-eight percent of all petitioned runaway cases in 2009. In addition, the truancy case rate for girls was higher than the rate for all other status offense categories" (Coalition for Juvenile Justice, 2013, p. 1).

Many of the females involved in the juvenile system have dealt with traumatic experiences prior to offending: "…70% of girls in juvenile justice have been exposed to trauma; 60% report have been raped or are in danger of being raped; 65% have had Post Traumatic Stress symptoms at some point in their life; 76% report having witnessed someone killed or severely injured; 74% report having been in danger of being hurt or having suffered physical injury" (Kuhn, 2013).

Females who engage in antisocial behavior as juveniles are more likely to continue these antisocial behaviors into adulthood, even if they stop offending. These females have higher mortality rates, increased risk of mental health issues, unsuccessful and violent relationships, lower education levels, and employment challenges as adults (Hogdon, 2009).

2.2.3 Family and Socioeconomic Impact

Family structure and socioeconomic status can impact juvenile delinquency rates. Foster care placements and homes where mothers or fathers are absent can correlate with involvement in the juvenile justice system. Thirty percent of children who live in a foster home will enter the juvenile justice system as a result of behavioral concerns in the home, and 25 percent of foster children will be incarcerated after turning 18 (Amurao, 2013). For children living with their

biological families, if a mother or father is absent, they are more likely to be suspended from school (Hinojosa, 2008).

Socioeconomic status is another predicting factor for student suspensions and juvenile delinquency involvement. Students who are categorized as having low socioeconomic status have higher rates of suspensions and expulsions from school (Skiba, Trachok, Chung, Baker, Sheya, & Hughes, 2013).

2.2.4 Racial Impact

Race factors into whether or not students with behavioral infractions will be suspended. Multiple data points support this claim. White students are three and one-half times less likely to be suspended than Black students, and white students are twice as likely as Black and Latino student to graduate (Amurao, 2013). Exclusionary discipline starts in preschool for Black students. Black students comprise 18 percent of preschool enrollment in the United States, but account for 42 percent of students suspended once and 48 percent of students suspended more than once (U.S. Department of Education Office for Civil Rights, 2014). This trend continues for grades K-12. Forty percent of students expelled from United States schools each year are Black, and 70 percent of in-school arrests are attributed to Black or Latino students. Black students are three times more likely to be suspended than white students, and Black and Latino students are twice as likely not to graduate from high school than their white peers (Amurao, 2013).

These suspensions are not only affecting a student's ability to graduate but are also reflected in the number of Black and Latino individuals who are incarcerated. Thirty percent of the United States is Black or Latino; however, a staggering 61 percent of those incarcerated are Black or Latino (Amurao, 2013). For Black males, the number of individuals imprisoned increased

by approximately 460,000 from 1980 to 2000, as compared to the increase by 120,000 of Black males who attended higher education institutions (Wagner, 2003). The number of Black males incarcerated in 2000 was about the same as those enrolled in higher education; as they await trial, classroom instructional time is lost, which leads to more drop-outs and increased recidivism (Wagner, 2003).

2.2.5 Mental Health Impact

When analyzing the characteristics of youth who are suspended or involved in the juvenile justice system, mental health repeatedly surfaces as a factor. Mental health plays a role as early as prekindergarten. Prekindergarten expulsions are twice as likely when a psychologist or psychiatrist is not available (Child Mind Institute, 2016). With suspensions or expulsions for 10 days, emotionally disturbed students make up 5.7 percent of those expulsions and suspensions (Child Mind Institute, 2016). As emotionally disturbed students reach high school, 38.7 percent of them drop out, compared to only 7 percent of all students (Child Mind Institute, 2016). The majority of juvenile offenders have a conduct or substance use disorder, and those with both conduct and substance use disorders are more likely to reoffend with substance–related violations (Conrad, Placella, Tolou-Shams, Rizzo, & Brown, 2014).

In the United States each year, over two million youth are arrested, over 600,000 are placed in juvenile detention, and over 93,000 are placed in secure juvenile detention centers (Snyder & Sickmund, 2006). Of the youth involved with the juvenile justice system, 70.4 percent have a psychiatric diagnosis (Child Mind Institute, 2016). Of these children, 60 percent have more than one diagnosis, and 61 percent also have a substance abuse problem (Skowyra & Cocozza, 2007). The National Center for Mental Health and Juvenile Justice reports that 27 percent of youth who

are in detention centers, correctional facilities, or placements in their community have diagnoses that severely impair their way of life (Cocozza, Skowyra, & Shufelt, 2010).

In many cases, youth are referred to juvenile justice to receive the mental health services unavailable to them in their communities (Skowyra, & Coccozza, 2007). This finding is confirmed by a government study in which two-thirds of the juvenile detention centers studied reported they were detaining juvenile who could not receive adequate mental health services in their communities. This same study found that of 698 centers studied, one-fourth provided poor or no mental health treatment, and one-half of the centers had poorly trained mental health staff (U.S. House of Representatives, 2004).

2.3 Challenges to Discipline in an Urban Setting

Urban educational settings have a variety of challenges that further complicate discipline policy. These include demographic, structural, and cultural challenges. The demographic challenges that appear in urban settings are related to more economically disadvantaged students, highly diverse racial and ethnic students, more immigrants and differences in first languages spoken, and higher student mobility rates (Kincheloe, 2004, 2010). In addition to these challenges, urban schools see more segregation by race and economic status (Orfield, 2004), which subsequently impacts the effectiveness of structure and processes related to declining student achievement (Rumberger & Palardy, 2005).

In examining systemic challenges in urban education, it is important to consider the impact on meeting student needs as well as affecting student achievement (Ahram, Stembridge, Fergus & Noguera, 2019). The major systemic challenges that urban settings face include chronically

underachieving students, instruction that is not coherent, teaching staff lacking experience, ineffective business operations, and low expectations for students (Ahram, Stembridge, Fergus & Noguera, 2019). Low student achievement is characterized:

- by poor performance on state assessments
- low graduation rates
- high rates of special education students (Ahram, Stembridge, Fergus & Noguera, 2019).

The next area, lack of coherent instruction can be defined by multiple initiatives that contradict one another, and ineffective professional development to implement these initiatives (Ahram, Stembridge, Fergus & Noguera, 2019).

The third area, inexperienced teachers, is included because inexperienced teachers are more likely to teach in schools with economically disadvantaged, Black, or Latino students (Lee, 2004). Research has found that teachers are less effective in their first three to five years (Goldhaber, 2008). The next area is ineffective business operations, which is often a result of urban districts being under-resourced (Ahram, Stembridge, Fergus & Noguera, 2019). The final area is low expectations for students. (Ahram, Stembridge, Fergus & Noguera, 2019). Low expectations are characterized by a lack of challenging courses, lack of gifted and talented programs, and staff that promote dropping out (Fine, 1991).

Cultural challenges are also a concern in urban education settings. Three main cultural challenges that show up in urban settings are:

- perception that race, and class predict school achievement
- belief that a student's socioeconomics and culture defines their intellectual ability

- school policies and procedures that are not culturally responsive (Ahram, Stembridge, Fergus & Noguera, 2019).

The first area, perceptions that race and class predict school achievement, is often the result of school personnel assuming that experiences in the homes of economically disadvantaged and minority students predicts their achievement level to be low (O'Connor & Fernanez, 2006). The second area, the belief that a student's socioeconomics and culture define their intellectual ability, means that teachers attribute poverty and cultural differences to students' intellectual capacity and ability (O'Connor & Fernandez, 2006). As a result, economically disadvantaged and minority students are stereotyped as having intellectual deficiencies. (Perry, Steele & Hilliard, 2003). The final area focuses on school policies and procedures that lack cultural responsiveness. Cultural responsiveness is a "pedagogy that acknowledges, responds to, and celebrates knowledge, information and processes as culturally bound and offers fuller and more equitable access to education" for economically disadvantaged and minority students (Ahram, Stembridge, Fergus & Noguera, 2019). In this respect, lack of cultural responsiveness leads to students who feel that school is unwelcoming, which results in low student achievement (Ahram, Stembridge, Fergus & Noguera, 2019).

2.4 Promising Practices for Reducing the School-to-Prison Pipeline

2.4.1 Multi-Tiered Systems of Support

This section examines multi-tiered systems of support and, specifically, Positive Behavioral Interventions and Support systems as promising practices for addressing the school-to-

prison pipeline. Multi-Tiered System of Supports (MTSS) is a promising practice that can aid in addressing the school-to prison pipeline. This particular type of program is focused on five different components: "(a) prevention and wellness promotion; (b) universal screening for academic, behavioral, and emotional barriers to learning; (c) implementation of evidence-based interventions that increase in intensity as needed; (d) monitoring of ongoing student progress in response to implemented interventions; and (e) engagement in systematic data-based decision making about services needed for students based on specific outcomes" (Cowan, Vaillancourt, Rossen, & Pollitt, 2013). This system is effective when school-based personnel like psychologists, counselors, social workers, and nurses are paired with community-based services to provide a continuum of supports for students (Cowan, Vaillancourt, Rossen, & Pollitt, 2013). Implementation of strong counseling programs correlates with increases in high school attendance, graduation rates, and standardized test scores (Palmer & Erford, 2012) as well as a reduction in suspensions and other disciplinary actions (Carey and Dimmit, 2012). This system encourages a team-based approach, which is universal yet individualized to meet the specific needs of students (Belser, Shillingford, & Joe, 2017).

In order to ensure that the model produces results, several steps must occur in order to implement MTSS with fidelity. The first step is to create an MTSS team. This team is comprised of teachers, counselors, social workers, psychologists, and administrators (Belser, Shillingford, & Joe, 2017). Once the team is created, they should have access to school demographic data, use the data to choose a universal screening system, and create next steps for the MTSS roll-out, which is then communicated to the entire staff for implementation (Belser, Shillingford, & Joe, 2017). The next step is to administer the selected universal screening tool to the entire student body. Using the same universal screening tool for all students rather than just recommendations from staff will

help to decrease the number of missed students who are in need of support (Ockerman et al., 2012). After all students are screened, the data are reviewed and students are recommended for placement in one of three tiers of support, and then supports are created for each of these tiers (Belser, Shillingford, & Joe, 2017). Tier 1 interventions are typically focused on general education and instruction and intervention for all students (Harn et al., 2015). Examples of this type of programming include Positive Behavioral Intervention Systems (PBIS) and Social and Emotional Learning.

The next tier, Tier 2, is intended for students in which Tier 1 is not effective (Belser, Shillingford, & Joe, 2017). This tier focuses on "targeted interventions, group interventions and individualized interventions for less problematic behaviors (Newcomer, Freeman, & Barrett, 2013). Group interventions can be used to effect positive change in order to decrease misconduct by focusing on anger management, social skills, conflict resolution, and/or personal growth (Belser, Shillingford, & Joe, 2017). In some cases, students are not successful with group settings and require individualize support. These types of support can include behavior contracts that provide student with feedback on norms and check-in/check-out systems that provide student with feedback on their progress (Belser, Shillingford, & Joe, 2017). Check-in / check-out systems have been found to improve student behavior and decrease behavioral referrals (Maggin et al., 2015; Martens & Andreen, 2013). The last tier is Tier 3. This tier focuses on students who are at the highest risk based on the universal screening and who have not improved based on Tier 1 and 2 interventions (Belser, Shillingford, & Joe, 2017). These interventions include individual counseling, individualized mentoring, and/or referral to outside agencies for support (Ockerman et al., 2012). Other Tier 3 strategies are functional behavior assessments and specific behavior

intervention plans, which have been found to reduce negative behaviors and increase replacement behaviors in elementary school Black males (Belser, Shillingford, & Joe, 2017).

The final step in MTSS is progress monitoring, which is imperative to ensure students are receiving appropriate supports (Darensbourg, Perez, & Blake, 2010). Administering the universal screening tool twice a year allows the team to monitor progress and adjust support as needed based on improvement (or lack of improvement), which could mean moving from one tier to another or requiring further psychological testing (Belser, Shillingford, & Joe, 2017). With progress monitoring, school personnel can assure that the best possible support is provided to the students.

2.4.1.1 Positive Behavior Interventions and Support Systems

PBIS focuses on promoting a positive school culture through behavioral interventions specific to the school, and providing feedback to students to reinforce positive behaviors (Contractor & Staats, 2014). PBIS involves prevention and intervention strategies in the classroom to develop positive, consistent, and safe learning environments through relationship building, which, in turn, supports academic, social, emotional, and behavioral outcomes for every student in a school (OSEP National Technical Assistance Center on PBIS, 2017). The model consists of four implementation elements: data, outcomes, practices, and systems. Data is the collection of information to ensure informed decision making; outcomes focus on what is needed for students to be successful both academically and behaviorally; practices focus on what experiences students must have to be academically and behaviorally successful through coaching, modeling, and encouragement; and systems are what teachers must experience to ensure that practices focused on academic and behavioral success are used in the classroom through professional development, access to data for decision making, and a team based approach to PBIS (OSEP National Technical Assistance Center on PBIS, 2017). Practices are drilled down further into three tiers: tier one,

universal practices for all students; tier 2, targeted practices for groups of students who need more support; and tier 3 indicates practices that provide intense and targeting support for students who require more than tiers 1 and 2 (OSEP National Technical Assistance Center on PBIS, 2017).

The impact of PBIS on the school environment, if implemented with fidelity, can have significant impact on school culture. This fidelity includes explicitly teaching students expected behaviors and allowing students to practice these behaviors, while consistently recognizing the choice by students to demonstrate the expected behaviors (Sugai & Horner, 2006). Specifically, it can reduce major discipline infractions, aggressive behaviors, bullying incidents, and teacher turnover, and it can increase academic achievement, perceptions about school safety, and school climate (OSEP National Technical Assistance Center on PBIS, 2017).

2.4.2 PBIS Features of Implementation

PBIS implementation requires a school or district to "…(a) identify meaningful outcomes; (b) establish and invest in school-wide systems; (c) select and implement contextually appropriate, evidence- based practices; and (d) collect and use data to make decisions" (Simonson, Sugai, & Negron, 2008, p. 34). For the area of identifying meaningful outcomes, positive behavior initiatives should be one of the top three areas for growth in a school or district improvement plan, and a review of local school and district behavioral data should be used to demonstrate the need for PBIS (Simonson, Sugai, & Negron, 2008). Then, the school or district must identify "observable, measurable, specific, and achievable annual outcomes" such as reduction in suspensions, increased achievement scores, attendance rates, etc. that will be used to monitor yearly progress (Simonson, Sugai, & Negron, 2008, p. 34).

Next, when establishing and investing in school-wide systems, it is recommended that the school establish a PBIS team that includes individuals who will work to support the initiative, a coach who will organize the implementation of PBIS and provide positive reinforcement to continue with the work when things make be difficult, and, finally, procure 80 percent agreement from the staff that the school should move forward with PBIS (Simonson, Sugai, & Negron, 2008). Next, a data system must be created to allow for behavioral data to be entered and a way to visually represent this data. Finally, all PBIS team members must be trained in PBIS (Simonson, Sugai, & Negron, 2008).

The next step is to select and implement contextually appropriate, evidence-based practices. This process includes setting a few expectations for students that are phrased in a positive way; establish routines that are associated with each of these expectations; create lesson plans that will be used to teach the expectations in each classroom; work with staff to actively monitor students demonstrating the expectations in the classroom and all other areas of the school; determine what strategies will be used to recognize positive behaviors; determine what strategies will be used to counter unwanted behaviors; create a system for positively recognizing staff members who are implementing PBIS; and, finally, create an action plan for guiding whole school implementation (Simonson, Sugai, & Negron, 2008).

Finally, collecting and using data to make decisions is important for monitoring implementation and making decisions. Team members will review data at every meeting to inform decision making; the data are shared with all staff, the process they use to make decisions is also publicly shared, and successes are shared with students, staff, families, and the school community (Simonson, Sugai, & Negron, 2008).

2.4.2.1 Leadership Teaming

When establishing a PBIS program, the first step is to create a leadership team and support structure. The OSEP Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) recommends that when a leadership team is selected, it should include individuals with the authority to influence policy making. The group should include a variety of stakeholders who understand the social, emotional, and behavioral needs of students, including but not limited to teachers, special education staff, board members, administrators, community members, community agencies, and/or families and individuals with experience with behavioral science that can assist with the understanding of Tier I and Tier II interventions. Once selected, these team members should be led by coordinators who have experience making decisions using data, and creating systems to support implementation with social, behavioral and emotional practices. Once all of these individuals are in place, the team will work to create a three to five-year action plan, develop a process for meeting and solving problems, engage with the superintendent, monitor and report on the implementation, and provide and collect regular feedback on implementation with the stakeholders.

2.4.2.2 Stakeholder Support

Stakeholder support is another area to be considered when implementing a PBIS program. The OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) recommends that stakeholders assist with setting goals and creating policy, sharing information and accomplishments of implementation with the community, and making PBIS a major goal of the school system. Stakeholders who hold central office positions should attend PBIS events to acknowledge the importance of PBIS implementation.

2.4.2.3 Funding

A three-year budget commitment to implementation also supports long-term sustainability (OSEP National Technical Assistance Center on PBIS, 2017).

2.4.2.4 Policy and System Alignment

The OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) recommends starting the policy work by creating a shared vision statement that reinforces the need for a positive school climate and how PBIS can reinforce such a climate and increase student achievement. In addition to a vision, PBIS should be articulated, reviewed, and updated regularly in district policy and regulations, and these policies and regulations should be distributed yearly to staff. Finally, a description of how PBIS is aligned to other social, emotional, and behavioral initiatives should be clearly articulated and shared with the district community. When other initiatives are considered, they should be vetted to determine their fit with the current initiatives in place.

2.4.2.5 Workforce Capacity, Training, and Coaching

Workforce capacity, training, and coaching are the next three areas of focus. OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2018) recommends establishing job descriptions that include PBIS, recruitment, and hiring criteria that require knowledge of PBIS and allocating personnel to assist with PBIS implementation. In addition to hiring, it also recommends training for new employees and an assessment of school and district personnel have in the area of PBIS.

In regard to training, the OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) recommends creating reference guides that focus on

"implementation rationale, process, outcomes, and readiness requirements" and a PBIS training calendar that is established in advance and published for all to see, which includes training for new employees and updated training for all employees. The training should include opportunities for like peer groups to get together and share promising practices and troubleshooting. Finally, large districts should build capacity for internal training to be sustained, rather than relying on outside providers.

Coaching is another component of PBIS implementation. It should take place monthly for newly formed teams and quarterly for existing teams to provide feedback and support with implementation with clear expectations regarding coaches' roles in the implementation (OSEP National Technical Assistance Center on PBIS, 2018). These coaches are also to be provided with training and technical support to ensure fidelity of PBIS implementation, with the intention that a large district build capacity for internal coaching systems, without reliance on outside providers (OSEP National Technical Assistance Center on PBIS, 2017).

2.4.2.6 Evaluation and Performance Feedback and Behavioral Expertise

Evaluation, performance feedback, and behavioral expertise are other areas of PBIS implementation. The OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) recommends the use of data at the school level to provide feedback on implementation to assist with decision making and to identify the need for additional supports. This system of evaluation should be established through the creation of a schedule and process for analyzing data for students, classrooms, and districts, including annual reports on progress to the community. Another recommendation is to celebrate accomplishments publicly every quarter. Finally, school districts should build capacity for internal evaluation and feedback, without reliance on outside providers.

2.4.2.7 Local Implementation Demonstrations

The final recommendation is for local implementation and demonstrations. This area aids districts in establishing how PBIS will be rolled out to schools. Specifically, it addresses pilot school selection and expansion plans, as well as a plan for how and when tiers will be implemented and how their implementation will be monitored through the use of data and shared with stakeholders (OSEP National Technical Assistance Center on PBIS, 2017).

2.5 Use of Formative Assessment

2.5.1 Definition of Formative Assessment

Formative evaluation can be defined as evaluation that is used to improve "program processes and providing feedback about strengths and weaknesses that appear to affect goal attainment" (Patton, 1999). It relies on evaluation data to improve the program being evaluated.

2.5.2 Theory of Action

This type of model connects theoretical ideas to support program assumptions and focuses on large concepts, not small details (W.K. Kellogg Foundation, 2004). A theory of action can help educators to accomplish a variety of tasks related to program implementation. They include what success looks like for the program, factors and resources that positively and negatively affect success of the program, what can be controlled for, and how to use data in decision making (W.K. Kellogg Foundation, 2004).

2.5.3 Logic Model

A logic model can be defined as a "systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program, the activities you plan, and the changes or results you hope to achieve" (W.K. Kellogg Foundation, 2004, pg. 1). A logic model allows the researcher or implementer of a program to evaluate how well a program was planned, implemented, and evaluated in addition to helping to make programs more successful and showing why the program is worthy of investment (W.K. Kellogg Foundation, 2004). Logic models, according to the Kellogg Foundation (2004), have five main components: factors, activities, outputs, outcomes, and impacts. Factors barriers that can limit the effectiveness of a program, such as funding, people, policies, etc. The next component is activities. Activities are the actions of the planned program, which may include products such as training, print materials, and/or structure. The third component is outputs. Outputs are defined as the results effected by the program activities and include a size or scope for their production. The fourth component is outcomes. Outcomes are defined as the changes in "attitudes, behaviors, knowledge, skills, status, or level of functioning" as a result of the program activities. The final component is impacts. Impacts are "organizational, community, and/or system level change" expected from the implementation of the planned activities.

Logic models should be read from left to right, starting with resources and ending with impact (W.K. Kellogg Foundation, 2004). In addition, logic models follow a chain of reasoning, highlighted by if… then statements to connect the program components (W.K. Kellogg Foundation, 2004). The logic model begins with the programs planned work and ends with the intended results (W.K. Kellogg Foundation, 2004).

3.0 Methods

3.1 PBIS in a PA School District

The district studied in this study is identified by a pseudonym, (PA School District). As documented in the Council of the Great City Schools (CGCS) report in 2016, four unspecified schools in the PA School District were implementing PBIS. Prior to the Council of Great City Schools study in 2016, PBIS had been implemented in the PA School District, partially and sporadically, for more than 20 years. The Council of the Great City Schools report made several recommendations to the PA School District on a variety of topics. One recommendation was to implement PBIS in every school in the district. The report specified that the implementation of PBIS should focus on the following discipline areas: early childhood suspensions, racial disproportionality, and long and short-term suspensions (Council of the Great City Schools, 2016). As a result of this report, the PA School District created a comprehensive strategic plan for addressing those concerns.

In 2017, the district unveiled their 2017-2022 Strategic Plan. The report contained four strategic themes, one of which was to *Create a Positive and Supportive School Culture* focusing on the following initiatives: “Establish a system-wide Multi-Tiered System of Support process, that includes Positive Behavioral Interventions and Supports and restorative practices, implemented through high-functioning Student Assistance Program teams in every school that is equipped to follow the process with fidelity; develop and communicate clear, consistent, and explicit expectations for staff interactions with students and families and each other; and implement a tiered and phased community schools approach” (PA School District, 2017).

The strategic plan went on to articulate a guiding vision: "PA School District will create positive and supportive school climates by implementing systems in every school that build community, promote positive relationship building, and provide differentiated academic and behavioral support and two outcomes: tiered methods to build community, strengthen relationships, and provide academic and behavioral support in every school and high-functioning, collaborative support teams will exist in every school" (PA School District, 2017). From these initiatives, a strategic theme team consisting of central office and school administrators helped to create a plan for implementing PBIS in every school in the school district.

3.2 Research Questions

This study addresses the following research questions:

1. What would be the retrospective theory of action and resultant logic model for the PBIS plan and implementation applied in a set of schools in a large urban district in Pennsylvania?
2. Based on this retrospective logic model and through formative evaluation, were there adequate resources to fully implement PBIS?
3. Based on the retrospective logic model and through formative evaluation, were there adequate activities to fully implement PBIS?
4. What were the expected outputs/outcomes to date, have they occurred and are they aligned with the logic model?

3.3 Description of the Study

One purpose of this study is to create a logic model that represents the implementation of a PBIS system in six schools in an urban school district. The schools represent the following grade bands: K-5, K-8, 6-8, 6-12, 9-12, and a special education school. The study first articulates a theory of action informed by district documentation. The data was requested from the PA School District through their Internal Review Board process. Once approved the data were received in the form of jump drives.

The theory of action was then used to retrospectively create a logic model. This logic model was then used to complete a formative evaluation of the adequacy of resources and activities and the expected outputs/outcomes of PBIS in this district to date. A formative evaluation is intended to assist with system improvement (Patton, 2005) by providing feedback that could help improve outcomes (Patton, 1999).

The development of a logic model and formative evaluation has not been completed by the district. With feedback on the implementation, the district can adjust the plan for PBIS implementation to better meet the needs of the students in the school district and provide a model for how new initiatives should be implemented in the future. Specifically, this study may provide refinement for other urban and large districts to implement PBIS.

3.4 Setting and Participants

This study consists of a sample of schools from a large urban district in Pennsylvania. The research was conducted in six schools, representing all grade bands in the school district. This

district was selected because it chose to implement PBIS in every school. Each of the district's school configurations were included in the study including one K-5, one K-8, one 6-8, one 6-12, one 9-12, and one school that specializes in special education student needs. The schools were selected to provide a cross section of schools in the district. When implementing PBIS, it is recommended that schools are selected to represent the full scope of district schools to include size, location, grade band, etc. and that between four and 10 schools are selected for initial implementation (Sugai & Horner, 2006). Based on these recommendations, the study focused on six schools that are located in all areas of the city, with various enrollment numbers, student demographics, and student achievement results. The schools were labeled with their grade band designations to allow for greater anonymity. School Demographic Data (Table 1) was obtained from the Report to the Community on Public School Progress in Pittsburgh (A+ Schools, 2018).

Table 1. School Demographic Data

Grade Band	School Description	Enrollment	Economically Disadvantaged	IEP Status	Racial Demographics	Students Chronically Absent	Students Suspended at Least Once	Graduation Rate for High Schools (2017)
K-5	Neighborhood school with an English as a Second Language program	330	70%	17%	Black: 17%, White: 45%, Multi -ethnic: 5%, Asian: 22%, Hispanic: 11%	13%	Overall: <1% Black: 0% White: 1% Low-income: 0% IEP: 2%	N/A
K-8	Neighborhood school housed in two buildings	609	87%	25%	Black: 65%, White: 20%, Multi -ethnic: 13%, Hispanic: 1%	35%	Overall: 5% Black: 7% White: 1% Low-income: 5% IEP: 9%	N/A
6-8	Neighborhood school with a Classical Academy magnet program	321	76%	26%	Black: 83%, White: 15%, Multi -ethnic: 2%	12%	Overall: 27% Black: 31%, White: 2%, Low-income: 32%, IEP: 38%	N/A
6-12	Creative & Performing Arts magnet school	886	29%	4%	Black: 26%, White: 63%, Multi -ethnic: 7%, Asian: 2%, Hispanic: 2%	18%	Overall: 4% Black: 7% White: 2% Low-income: 5% IEP: 5%	97%
9-12	Neighborhood school with Finance Technology; Health Careers Technology; Culinary Arts; Information Technology; Carpentry; and Business Administration, Sports, and Entertainment CTE programs	840	77%	26%	Black: 38%, White: 48%, Multi-ethnic: 10%, Asian: 2%, Hispanic: 2%,	45%	Overall: 22% Black: 36% White: 13% Low-income: 26% IEP: 28%	82%
Special	For students in grades 3-12 who need support for an emotional disturbance	95	96%	100%	Black: 88%, White: 8%, Multi-ethnic: 3%,	N/A	N/A	N/A

The term IEP above refers to “Students with an Individual Education Plan (IEP) for special education, excluding students identified as ‘gifted”” (A+ Schools, 2018). “Magnet school” refers to a school in which all students must apply to attend. “School with a magnet program” refers to a school with both magnet and neighborhood (feeder pattern) components. “CTE program” refers to Career and Technical Education” (A+ Schools, 2018).

3.5 Data Collection and Analysis

This study begins with the creation of a theory of action for PBIS implementation in the district. The theory of action articulates the overall purpose and logic for the improvement effort. A logic model then further explicates the resources, actions, and various outputs and outcomes of the improvement effort. The relationships among these elements support the development of a formative evaluation plan to consider the resources and activities to implement PBIS. Secondary data was used to apply “theoretical knowledge and conceptual skills to utilize existing data to address the research questions” (Johnston, 2014).

For research question one, the following district documents were used to explain the theory of action and subsequently create a logic model from the theory of action: strategic plan, strategic theme team action plan, strategic theme team closeout document, and PBIS Installation and Training Plan. A form of qualitative analysis, framework analysis, was used for this research question. Qualitative data analysis is an interpretation of data that is not numeric, such as documents, interviews, photos, video, etc. (Dudovskiy, 2018). More specifically, framework analysis is the process in which researchers familiarize themselves with the content; identify a framework based on themes from the research; code, chart, and map based on these themes, and,

finally, provide an interpretation, or in the case of this research study, a theory of action and logic model (Dudovskiy, 2018). For this question, a review of the literature and district documents familiarized the researcher with PBIS implementation (Ritchie & Spencer, 1994). Next, the thematic framework is established by identifying themes within the data set. Notes taken during the familiarization process are then used to begin coding the themes, with particular attention to being objective in identification, regardless of prior knowledge about the subject of PBIS implementation (Ritchie & Spencer, 1994). In coding, a code is understood as "… a word or short phrase that symbolically assigns a summative, salient, essence-capturing, and/or evocative attribute for a portion of language-based or visual data" (Saldana, 2010). Once codes were decided upon, they were then charted to determine where they were displayed in the documents selected for analysis. The chart included a column for theme, title of document, actual text from the document, and the location in the document. The theme was also marked as inductive or deductive in nature; inductive are the ideas that are not predetermined by the research but are gathered from the documents selected for analysis. Deductive themes are informed by prior research before document review. This chart is provided below in Table 2 titled Theme Organization Chart.

Table 2. Theme Organization Chart

Concept (D/I)	Document	Text	Location in Document

Next, mapping of the chart was conducted to provide a diagram of the implementation plan for the school district (Ritchie & Spencer, 1994). For this study, this diagram was in the form of a theory of action and logic model.

For research question two, to evaluate the adequacy of resources, the PBIS school team Self-Assessment Survey and Tiered Fidelity Inventory Survey results were used. The PBIS school team Self-Assessment Survey was selected to collect school team perception data based on their experiences with implementation. The Self-Assessment Survey (SAS) "provides staff perception data to assist with annual action planning, internal decision-making, assessment of change over time, awareness of building staff and team validation" (Midwest PBIS, 2019). The SAS was chosen in order to provide understanding of staff perceptions of PBIS implementation. The survey is administered to the entire school staff and requires 80 percent participation for fidelity. School staff do not identify their role group, gender, or race, which helps to ensure anonymity. The survey requires participants to rate general implementation status as IP = In Place (>80%), PP = Partially in Place (50-80%), or NP = Not in Place (<50%) for each question posed (Midwest PBIS, 2019). All the questions are categorized by overarching themes, including school-wide systems, non-classroom settings, classroom settings, and individual student settings. The questions related to resources come from the school-wide systems theme. In Tables 3-6 the following SAS questions were used to evaluate the adequacy of resources:

Table 3. School-Wide Systems SAS Resources

Question No.	Question
9	A team exists for behavior support planning & problem solving.
10	School administrator is an active participant on the behavior support team.

For the questions used to evaluate the adequacy of resources, the staff ratings in the category of *in place* status from 2017 – 2018 school year were compared to the 2018 – 2019 school year. A change of *in place* status was then calculated by subtracting the 2018-2019 school year responses from the 2017-2018 school year for the average. Once these calculations were completed, coding was used to provide analysis of the data. The process for coding is documented on page 33-35, in section 3.6 Data Collection and Analysis.

The Tiered Fidelity Inventory survey data was used to evaluate how schools rated themselves on PBIS implementation. A Tiered Fidelity Inventory survey "helps teams identify and prioritize action planning items, provides fidelity of implementation data, and basis for recognition" (Midwest PBIS, 2019). The survey is administered to the PBIS school team, which consists of at least five school-based team members and can include a student or parent. The inventory requires teams to rate implementation in particular categories as: 0 = No evaluation takes place, or evaluation occurs without data; 1 = Evaluation conducted, but not annually, or outcomes are not used to shape the Tier I process and/or not shared with stakeholders; and 2 = Evaluation conducted at least annually, and outcomes (including academics) shared with stakeholders, with clear alterations in process based on evaluation (Midwest PBIS, 2019). The team completes the inventory as a group. The data was then analyzed by using the Tiered Fidelity inventory results for the last two years to evaluate the adequacy of the PBIS resources provided during implementation. In Table 4, the following questions from the TFI were used to evaluate the adequacy of resources:

Table 4. TFI Resource Questions

Question Title	Question
1.1 Team Composition	Tier I team includes a Tier I systems coordinator, a school administrator, a family member, and individuals able to provide (a) applied behavioral expertise, (b) coaching expertise, (c) knowledge of student academic and behavior patterns, (d) knowledge about the operations of the school across grade levels and programs and for high schools, (e) student representation.
1.7 Professional Development	A written process is used for orienting all faculty/staff on four core Tier I SWPBIS practices: (a) teaching school-wide expectations, (b) acknowledging appropriate behavior, (c) correcting errors, and (d)requesting assistance.
1.9 Feedback and Acknowledgement	A formal system (i.e., written set of procedures for specific behavior feedback that is [a] linked to school-wide expectations and [b] used across settings and within classrooms) is in place and used by at least 90% of a sample of staff and received by at least 50% of a sample of students.
1.10 Faculty Involvement	Faculty are shown school-wide data regularly and provide input on universal foundations (e.g., expectations, acknowledgements, definitions, consequences) at least every 12 months.
1.12 Discipline Data	Tier I team has instantaneous access to graphed reports summarizing discipline data organized by the frequency of problem behavior events by behavior, location, time of day, and by individual student.
1.14 Fidelity Data	Tier I team reviews and uses SWPBIS fidelity (e.g., SET, BoQ, TIC, SAS, Tiered Fidelity Inventory) data at least annually
1.15 Annual Evaluation	Tier I team documents fidelity and effectiveness (including on academic outcomes) of Tier I practices at least annually (including year by-year comparisons) that are shared with stakeholders (staff, families, community, district) in a usable format.

For research question three, to evaluate the adequacy of activities, the PBIS school team Self-Assessment Survey (SAS) and Tiered Fidelity Inventory Survey results were used. All the questions from the survey are categorized by an overarching theme, including school-wide systems, non-classroom settings, classroom settings and individual student settings. Data analysis procedures can be found on page 35, section 3.6 Data Collection and Analysis. See Table 5 through 8 for SAS questions used to evaluate the adequacy of activities.

Table 5. School-Wide Systems SAS Activities

Question No.	Question
1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.
2	Expected student behaviors are taught directly.
3	Expected student behaviors are rewarded regularly.
4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.
5	Consequences for problem behaviors are defined clearly.
6	Distinctions between office v. classroom managed problem behaviors are clear.
7	Options exist to allow classroom instruction to continue when problem behavior occurs.
8	Procedures are in place to address emergency/dangerous situations.
9	A team exists for behavior support planning & problem solving.
10	School administrator is an active participant on the behavior support team.
11	Data on problem behavior patterns are collected and summarized within an on-going system.
12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).
13	School has formal strategies for informing families about expected student behaviors at school.
14	Booster training activities for students are developed, modified, & conducted based on school data.
15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.
16	All staff are involved directly and/or indirectly in school-wide interventions.
17	The school team has access to on-going training and support from district personnel.
18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.

Table 6. Non-Classroom Settings SAS Activities

Question No.	Question
1	School-wide expected student behaviors apply to non-classroom settings.
2	School-wide expected student behaviors are taught in non-classroom settings.
3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.
4	Rewards exist for meeting expected student behaviors in non-classroom settings.
5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.
6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.
7	Staff receives regular opportunities for developing and improving active supervision skills.
8	Status of student behavior and management practices are evaluated quarterly from data.
9	All staff are involved directly or indirectly in management of non-classroom settings.

Table 7. Classroom Settings SAS Activities

Question No.	Question
1	Expected student behavior & routines in classrooms are stated positively & defined clearly.
2	Problem behaviors are defined clearly.
3	Expected student behavior & routines in classrooms are taught directly.
4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).
5	Problem behaviors receive consistent consequences.
6	Procedures for expected & problem behaviors are consistent with school-wide procedures.
7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.
8	Instruction & curriculum materials are matched to student ability (math, reading, language).
9	Students experience high rates of academic success ($\geq$ 75% correct).
10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).
11	Transitions between instructional & non-instructional activities are efficient & orderly.

Table 8. Individual Student Systems SAS Activities

Question No.	Question
1	Assessments are conducted regularly to identify students with chronic problem behaviors.
2	A simple process exists for teachers to request assistance.
3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.
4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.
5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).
6	Significant family &/or community members are involved when appropriate & possible.
7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.
8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.

The Tiered Fidelity Inventory survey questions chosen for evaluating the adequacy of activities can be found in Table 9 below. The process for analyzing the data can be found on page 36, section 3.6 Data Collection and Analysis.

Table 9. TFI Activities

Question Title	Question
1.2 Team Operating Procedures	Tier I team meets at least monthly and has (a) regular meeting format/agenda, (b) minutes, (c) defined meeting roles, and (d) a current action plan.
1.3 Behavioral Expectations	School has five or fewer positively stated behavioral expectations and examples by setting/location for student and staff behaviors (i.e., school teaching matrix) defined and in place.
1.4 Teaching Expectations	Expected academic and social behaviors are taught directly to all students in classrooms and across other campus settings/locations.
1.5 Problem Behavior Definitions	School has clear definitions for behaviors that interfere with academic and social success and a clear policy/procedure (e.g., flowchart) for addressing office-managed versus staff-managed problems.

1.6 Discipline Policies	School policies and procedures describe and emphasize proactive, instructive, and/or restorative approaches to student behavior that are implemented consistently.
1.7 Professional Development	A written process is used for orienting all faculty/staff on 4 core Tier I SWPBIS practices: (a) teaching school-wide expectations, (b) acknowledging appropriate behavior, (c) correcting errors, and (d)requesting assistance.
1.8 Classroom Procedures	Tier I features (school-wide expectations, routines, acknowledgements, in-class continuum of consequences) are implemented within classrooms and consistent with school-wide systems.
1.9 Feedback and Acknowledgement	A formal system (i.e., written set of procedures for specific behavior feedback that is [a] linked to school-wide expectations and [b] used across settings and within classrooms) is in place and used by at least 90% of a sample of staff and received by at least 50% of a sample of students.
1.10 Faculty Involvement	Faculty are shown school-wide data regularly and provide input on universal foundations (e.g., expectations, acknowledgements, definitions, consequences) at least every 12 months.
1.11 Student/Family/Community Involvement	Stakeholders (students, families, and community members) provide input on universal foundations (e.g., expectations, consequences, acknowledgements) at least every 12 months
1.13 Data-based Decision	Making: Tier I team reviews and uses discipline data and academic outcome data (e.g., curriculum-based measures, state tests) at least monthly for decision-making.
1.14 Fidelity Data	Tier I team reviews and uses SWPBIS fidelity (e.g., SET, BoQ, TIC, SAS, Tiered Fidelity Inventory) data at least annually.
1.15 Annual Evaluation	Tier I team documents fidelity and effectiveness (including on academic outcomes) of Tier I practices at least annually (including year by-year comparisons) that are shared with stakeholders (staff, families, community, district) in a usable format.

For research question four, to evaluate the outputs/outcomes to date to determine if they have occurred and if they are aligned with the logic model, this study used the following set of data: suspension data, attendance data, Multidisciplinary evaluation referral rates, Positive School Climate Data via the Teaching and Learning Conditions (TLC) Survey for teachers, and Tripod Student Perceptions Survey for students.

Suspension and attendance were evaluated by reviewing the three-year trend of suspension rates. These suspension rates were disaggregated by race, gender, socioeconomic status, and special education status.

Multidisciplinary evaluations were evaluated by reviewing the three-year trend of referral rates. These referral rates were disaggregated by race, gender, and special education status. Socioeconomic status was not available for multidisciplinary evaluations.

Positive school climate was evaluated by reviewing three-year survey results for the Teaching and Learning Conditions (TLC) Survey, administered to teachers, and the Tripod Student Perceptions Survey, which was administered to students.

The TLC survey is administered to every staff member in the school. Staff members are asked to rate statements using the following scale: strongly agree, agree, disagree, and strongly disagree (New Teacher Center, 2018). For this study, the following questions specific to student conduct were explored:

- 5.1a. Students at this school understand expectations for their conduct
- 5.1b. Students at this school follow rules of conduct
- 5.1e. School administrators support teachers' efforts to maintain discipline in the classroom;
- 5.1f. Teachers consistently enforce rules for student conduct

- 5.1g. The faculty work in a school environment that is safe (New Teacher Center, 2018).

The results from year to year were compared. In addition, the results per school were compared to the district average for these questions as well as the grade band average for these questions. The TLC Survey is not disaggregated by race, gender, special education placement, or socioeconomic status.

The Tripod survey is administered to all students in grades 3-12 twice a year. Students are asked to rate statements using the following scale for grades 3-5: 1= No/Never, 2=Mostly Not, 3=Maybe/Sometimes, 4=Mostly Yes, and 5=Yes, Always. Students are asked to rate statements using the following scale for grades 6-12: 1=Never, 2=Usually Not, 3=Sometimes, 4=Usually, and 5=Always (Tripod, 2018). Specifically, the study looked at the responses to the following question on the Tripod Student Perceptions Survey related to school safety: this school feels like a safe place for me (Tripod, 2018). The results were compared by year and compared to the district average, as well as the grade band average for these questions. The Tripod Student Perception Survey is not disaggregated by race, gender, special education placement, or socioeconomic status.

The use of data from multiple sources allowed for triangulation of data. Connections between suspension, attendance, multidisciplinary evaluations, and survey results allow for a deeper evaluation of outputs/outcomes.

3.6 Limitations and Assumptions of the Study

There are a few limitations and assumptions for this study. The first limitation is that secondary data collected for the creation of the logic model may not provide a complete picture of

the theory of action. The data, if incomplete, could cause the theory of action and logic model to be flawed. The second limitation is the timing of the study. The study is only two years into implementation and does not show long-term effects of the PBIS implementation. In regard to assumptions, this study assumes that the school-based participants completed their surveys regarding implementation thoroughly and honestly.

3.7 Ethical Assurances

Ethical requirements were met during this study. The use of secondary analysis of existing data provided the opportunity to study the program without direct interaction with human subjects. Instead, the district-level documents were analyzed, and school level data were used to evaluate implementation. School names were omitted and, instead, grade bands were used to identify school structure only. Since one of the goals of this study is to evaluate the implementation of PBIS, the findings were shared with the district. Before the initiation of the study, the study was approved by the University of Pittsburgh Human Research Protections Office and the district level internal review board process, this is included in Appendix A.

3.8 Preview of Subsequent Chapters

Chapter 4 in this dissertation will articulate the retrospectively constructed theory of action for PBIS implementation and accompanying logic model. In addition, chapter 5 will also provide findings from the formative evaluation of resources, activities, and outcomes/outputs using the

logic model to better understand the impact of the Positive Behavioral Intervention System on the school culture and climate. The lessons learned from this study, discussed in Chapter 6, may potentially support the implementation of other programs in this urban district and other urban districts implementing similar efforts.

4.0 Retrospective Theory of Action and Logic Model

4.1 Research Question 1

This section will address the first research question: What was the theory of action and resultant logic model for the PBIS plan and implementation applied in a set of schools in a large urban district in Pennsylvania? This theory of action and resultant logic model will then be used to address the remaining research questions, which will evaluate resources, activities, and outcomes/outputs of this initiative. In order to get started with this process, secondary data were used in order to apply "theoretical knowledge and conceptual skills to utilize existing data to address the research questions" (Johnston, 2014, p. 620). This analysis was completed using the following district documents: Strategic Plan, Strategic Theme Team Action Plan, Strategic Theme Team Closeout Document, and PBIS Installation and Training Plan. These documents were analyzed to establish themes, code the themes, and then to map and interpret the themes.

4.1.1 Establishment of Themes

Themes were established by reading each document and noting recurring concepts. The themes were then charted in an Excel document, using one sheet per theme. The following themes were identified: climate, multi-tiered systems of support, partnerships, positive relationships, interventions, norms and expectations, professional development, buy-in, accountability, district-level team, fidelity, measurable outputs, outcomes, support resources, and team.

4.1.2 Coding Themes

Once themes were identified, they were used to create a coding chart to document where the themes were found in the documents. The chart included a column for theme, title of document, coded text from the document, and the location in the document. Deductive and inductive coding were both considered, but in the end, only deductive themes identified with predetermined codes were documented.

Norms and expectations, a theme frequently discussed in the literature review, was one theme identified in three separate documents. This is when:

- a few expectations are set for students that are phrased in a positive way
- routines are established that are associated with each of these expectations
- lesson plans are created that will be used to teach the expectations
- administration works with the staff to actively monitor students demonstrating the expectations in the classroom and all other areas of the school
- then strategies will be used to recognize positive behaviors and to counter unwanted behaviors
- a system is created for positively recognizing staff members who are implementing PBIS
- an action plan is created for guiding whole school implementation (Simonson, Sugai, & Negron, 2008).

Specifically, the theme of norms and expectations was found in the Strategic Plan under Strategic Theme #1 Object 2, Strategic Initiatives 2b section, which states: “Develop and communicate clear, consistent, and explicit expectations for staff interactions with students and

families" (PA District Strategic Plan, 2017, p. 3). In the Strategic Theme Team Action Plan on page three, the norms and expectations theme was also documented with the following statement: "Behavior: School behavior norms need to be determined by the PBIS team. The team needs to set a standard for when referrals will be accepted by the team for Tier 2 interventions (Structured breaks, mentoring, small groups)" (PA Strategic Theme Team Action Plan, 2018, p. 3). Finally, the theme was found in the PBIS Implementation Training Plan document on page two: "The district is allowing each building to maintain or adopt their own 3-5 expectations; to complete the matrix with their own specific rules to locations" (PBIS Implementation Training Plan, 2018, p.2).

Another theme found in multiple documents was **professional development**, a topic also frequently noted in the literature. Professional development was referred to as "training" in the OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2017) document. OSEP recommends creating a PBIS training calendar that is established in advance and published for all to see. It should include training for new employees and updated training for current employees, and opportunities for like peer groups to get together and share promising practices and troubleshooting strategies. It is also recommended that large districts build capacity to provide their own training (OSEP National Technical Assistance Center on PBIS, 2017).

Specifically, the professional development theme was noted 12 times in the Strategic Theme Team Action Plan. One example was on page eight: "Central office staff will need to provide professional development and lead this work. Staff leaders will include the new Director of Counseling and 4 Central Office MTSS Coaches" (PA Strategic Theme Team Action Plan, 2018, p. 16). Also, the theme was found in the PBIS Implementation Training Plan nine times. One example includes the following statement: "Leadership Training Modules 1, 2 and 4 and 3

modules for TFI for district core team, building principals, building level coach" (PBIS Implementation Training Plan, 2018, p. 5).

A third theme was **measurable outputs**, defined as "observable, measurable, specific, and achievable annual outcomes" such as reduction in suspensions, increased achievement scores, attendance rates, etc. that will be used to monitor yearly progress (Simonson, Sugai & Negron, 2008, p. 34).

Measurable outputs were found in two documents. First, the Strategic Theme Team Action Plan highlights the following measurable outputs: "decrease in initial PSE referrals will be expected, as a result of better regular education interventions; decreased student out of school suspensions; increase in student attendance; increased graduation rates and for teachers: increased evaluation ratings" (PA Strategic Theme Team Action Plan, 2018, p. 2). This theme was also found in the Strategic Plan Closeout Document, which highlights the following measurable outputs: "Out of School suspension rates will decrease; student attendance will increase and Initial Multidisciplinary evaluations (MDEs) will decrease, because regular education interventions will occur consistently and efficiently" (Strategic Plan Closeout Document, 2018, p. 5).

Another theme was **fidelity**. Fidelity includes explicitly teaching students expected behaviors and allowing students to practice these behaviors, while repetitively recognizing the choice by students to demonstrate the expected behaviors (Sugai & Horner, 2006). Fidelity can reduce major discipline infractions, aggressive behaviors, bullying incidents, and teacher turnover; it can also improve academic achievement, perceptions about school safety, and school climate (OSEP National Technical Assistance Center on PBIS, 2017).

The fidelity theme was found in three documents. First, it was found in the Strategic Plan Strategic Theme #1 Objective 1 Strategic Initiative 1a, which states, "Establish high-functioning

Student Assistance Program (SAP) teams in every school that are equipped to follow Multi-Tiered System of Support (MTSS) process, and do so with fidelity" (PA Strategic Plan, 2017, p. 2). Fidelity was also found in the Strategic Theme Team Action Plan (2018, p. 13), which states that "PATTAN is willing to provide ongoing consultation re: PBIS, in kind. Since the district would like to create a different model than PATTAN has typically supported, we will need to work closely with PATTAN on our PBIS plan. This is critical to fidelity of implementation. Consistency of adult behaviors is critical to success. Without 80% buy in, the changes of achieving necessary change in adult behaviors decreases." Finally, this theme was found in the PBIS Installation Training Plan (2018), which on page one states, "The district will utilize the Tiered Fidelity Inventory (TFI) to tie buildings to fidelity to implementation in addition to the Team Implementation Checklist, TIC, and the Benchmarks of Quality (BOQ), when applicable."

One final example of a theme was **supports**; one form being coaching. It is recommended that coaching take place monthly for newly formed teams and quarterly for existing teams in order to provide feedback and support with implementation with clear expectations of the coach's role in the implementation (OSEP National Technical Assistance Center on PBIS, 2017).

The support theme was found in three documents. It was documented five times in the Strategic Theme Team Action Plan. One example includes the following statement: "For central office administrators: providing technical support, as well as monitoring compliance" (Strategic Theme Team Action Plan, 2018, p. 7). In the PBIS Installation Training Plan it was documented seven times, including the following example: "Follow up support- site visits/walkthroughs to build district facilitator capacity and to monitor progress and fidelity of implementation (.5 day per site= 12 days/4 = 3 days per trainer)" (PBIS Installation Training Plan, 2018, p.7). Finally, the theme of support was also found in the Strategic Plan Project Closeout Document (2018), which

on page six states, “Ensure effective, dedicated supports and follow-through to come after initial training sessions.”

After completing the coding process and reviewing the literature, two components of suggested PBIS implementation were not evident in the district documents: funding and local implementation demonstrations. In regard to funding, a three-year budget commitment to implementation that also supports long-term sustainability is recommended. (OSEP National Technical Assistance Center on PBIS, 2017). There was no mention of a funding plan for PBIS implementation in the district documents studied. The second theme not explicitly documented in the district documents was local implementation demonstrations. Local implementation demonstrations not specifically called out include a plan for how and when tiers will be implemented and how their implementation will be monitored through the use of data (OSEP National Technical Assistance Center on PBIS, 2017). All other components suggested by the literature on PBIS implementation were documented in the coding process.

4.2 Logic Model and Theory of Action

A logic model, according to the Kellogg Foundation (2004), can be defined as a “systematic and visual way to present and share your understanding of the relationships among the resources you have to operate your program, the activities you plan, and the changes or results you hope to achieve” (p. 1). A logic model allows the researcher or implementer of a program to evaluate how well a program was planned, implemented, and evaluated; it can also help to make programs more successful and articulate why the program is worthy of investment. Logic models have five main components: factors, activities, outputs, outcomes, and impacts (W.K. Kellogg

Foundation, 2004). Current district documents were used to retrospectively construct a logic model and theory of action. The logic model was used to formatively evaluate PBIS implementation related to adequate resources and activities, and if expected outputs/outcomes occurred and were aligned to the logic model. The logic model below illustrates the relationships between resources, activities, outputs, outcomes, and impacts derived from the coding process.

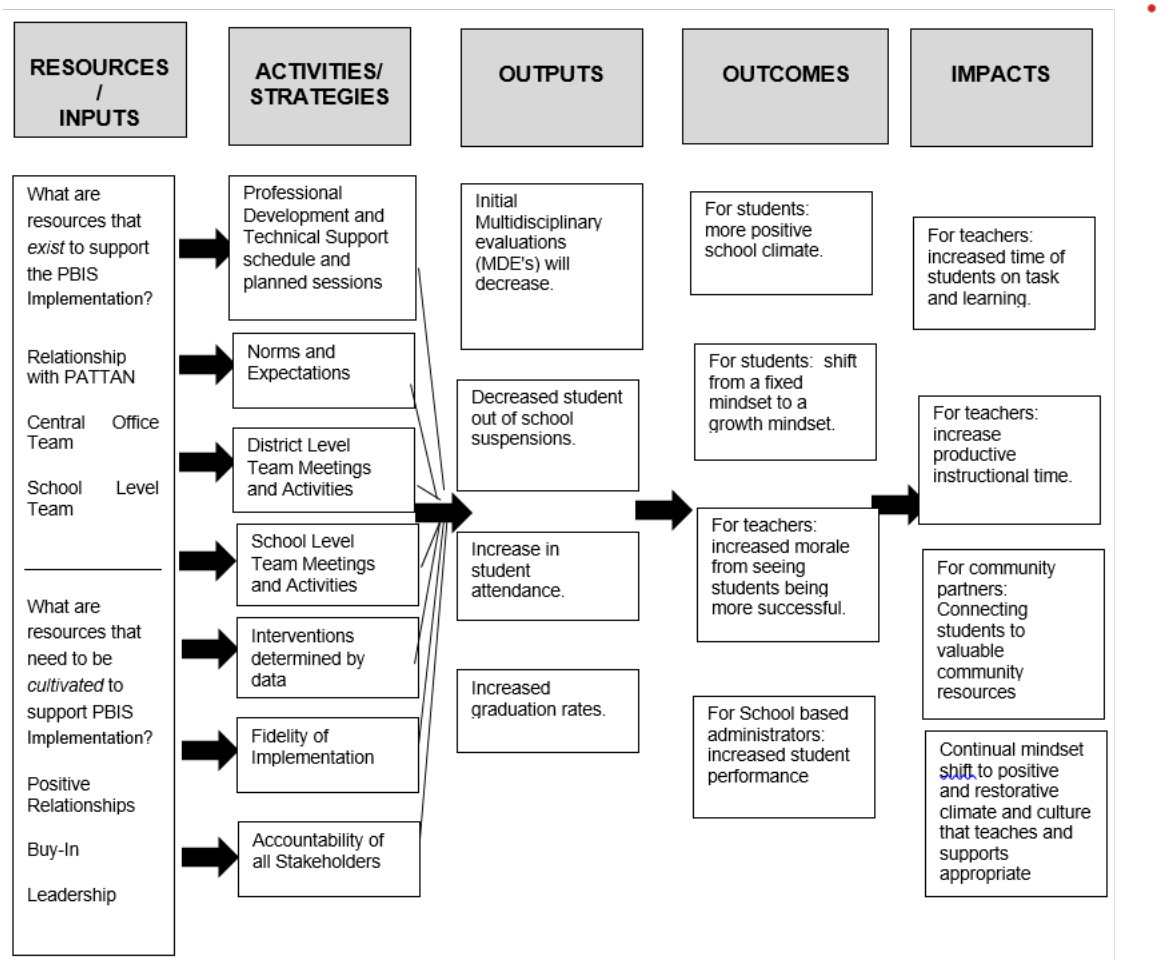

Figure 1. PBIS Evaluation Logic Model

The logic model framework above (Figure 1) illustrates the relationships between PBIS implementation resources, activities, outputs, outcomes, and impacts. The figure also demonstrates the intended outcomes, outputs, and impacts as a result of the PBIS activities.

4.2.1 Map and Interpret

In order to create the logic model, a theme chart was used to map and interpret the results. The first step for this process was to group themes together by using five main program components of a logic model: factors, activities, outputs, outcomes, and impacts (W.K. Kellogg Foundation, 2004).

The first component is **environmental factors**. Environmental factors affect the effectiveness of a program and include resources and/or barriers, such as funding, people, and/or policies (W.K. Kellogg Foundation, 2004). The following themes were categorized as environmental factors: district-level teams, school-level teams, partnerships with external agencies, positive relationships, buy-in, and leadership. District-level teams and school-level teams are resources necessary to implement PBIS at the district and school levels. Partnerships with an external agency provide support for implementation through training, technical support, and feedback. Buy-in and leadership provide the human resources needed to ensure successful implementation of PBIS.

The next component was **activities**. Activities are the actions of the planned program and may include products such as training, print materials, and/or structure (W.K. Kellogg Foundation, 2004). The following themes were grouped under activities: professional development, fidelity, accountability, district-level teams, school-level teams, interventions, and norms and expectations.

Professional development was a component of activities that provide learning opportunities for all stakeholders. Fidelity and accountability are activities that ensure that rules are set and followed for implementation of PBIS, with a way to hold individuals accountable. District-level teams and school-level teams are resources to implement PBIS at the district and school level. Interventions are activities that ensure that steps are clearly set to intervene in student behaviors. Finally, norms and expectations are a component of activities and are needed to set clear expectations for PBIS roll out.

The final three components are singular in nature: **outputs, outcomes,** and **impacts**. Outputs are defined as the results of the program activities and include a size or scope for their production (W.K. Kellogg Foundation, 2004). Outcomes are defined as the changes in "attitudes, behaviors, knowledge, skills, status, or level of functioning" as a result of the program activities (W.K. Kellogg Foundation, 2004, p. 8). Impacts are "organizational, community, and/or system level change" expected from the implementation of the planned activities (W.K. Kellogg Foundation, 2004, p.8).

4.2.2 Theory of Action

Once the logic model was created, a theory of action could be articulated. A theory of action identifies a problem that needs to be addressed and the subsequent actions that must take place in order to provide a resolution to the problem (W.K. Kellogg Foundation, 2004). Using the framework analysis from the coding exercise, the following theory of action and logic model were retrospectively created. The logic model above was used to create the theory of action in Figure 2 below.

IF we utilize the relationship with Pennsylvania Training and Technical Assistance Network (PATTAN), the District Level Team and School Level Team, while cultivating positive relationships, buy-in and leadership, while ensuring professional development and technical support schedule and planned sessions, set norms and expectations, support district level and school level team meetings and activities, offer interventions determined by data, with a focus on fidelity of implementation and accountability of all stakeholders

Figure 2. PBIS Implementation Theory of Actionate

The theory of action, like the logic model, was created retrospectively. When PBIS implementation was rolled out in the PA School District, a logic model and theory of action were not established. The use of a logic model and theory of action can assist with planning and is necessary to evaluate the progress of implementation, as well as to determine the strengths and areas for growth with implementation. For the second phase of this study, the logic model was used to formatively evaluate PBIS implementation related to adequate resources and activities, and to explore if expected outputs/outcomes occurred and were aligned to the logic model. The responses to research questions two through four, as they relate to the logic model, are articulated in Chapter 5.

5.0 Evaluation Findings

5.1 Adequacy of Resources to Support Implementation (Research Question 2)

Using the logic model presented in Chapter Four, the remaining research questions will be addressed. The second research question, based on the retrospective logic model and addressed through formative evaluation, was *were there adequate resources to fully implement PBIS in the PA School District*? The logic model included several resources that the PA School District identified as necessary components for PBIS implementation. The resources were placed into one of two categories: resources that *exist* to support the PBIS Implementation and resources that need to be *cultivated* to support PBIS Implementation. Existing resources included a relationship with the Pennsylvania Training and Technical Assistance Network (PaTTAN), a Central Office Team, and a School Level Team. The resources that needed to be cultivated were positive relationships, buy-in, and leadership. This particular study provides data for evaluating the adequacy of resources through the Self-Assessment Survey (SAS) and Tiered-Fidelity Inventory results for the last two years for each school. Data from each tool is reviewed below.

5.1.1 Self-Assessment Survey Findings by School

Participant responses to two statements from the SAS were used to evaluate adequacy of resources:

- A team exists for behavior support planning and problem solving
- School administrator is an active participant on the behavior support team. (SAS, 2018)

These questions are also included in Appendix C and were originally discussed in Chapter 3.

Overall, the SAS data for adequacy of resources varied across schools. For the K-5 and K-8 participants, the change *in place* status for school team and administrator support raised slightly. The 6-8 participants showed a small increase (+5%) of *in place* status for the school team and a small decrease (-9%) for administrator support. The 6-12 participants showed a small increase of *in place* status for school team (+3%) and a large increase for administrator support (+27%). The 9-12 group, however, had the opposite result with a large increase of *in place status* for school team (+29%) and small increase for administrator support (+10%). Finally, the Special school showed a negative change of *in place* status for school team (-3%) and administrator support (-1%). See Appendix D for complementary data tables or figures.

5.1.2 Tiered-Fidelity Inventory Findings by School

The second way to evaluate the adequacy of resources was to use seven component questions from the Tiered-Fidelity Inventory (TFI). The questions from the TFI include: team composition, professional development, feedback and acknowledgement, faculty involvement, discipline data, fidelity data, and annual evaluation. These questions are also included in Appendix C and were originally discussed in Chapter 3.

Overall, the TFI data was limited in variability due to the three-point rating scale used for the survey. Across the schools, the data did not show a clear pattern. The 6-12 team only had one year of data; therefore, no comparison data is available for analysis. (See Appendix D for data tables.)

Beginning with the K-5 participants, the team composition rating was the only area that shows a decrease, moving from a 2 to a 1 rating. Feedback and acknowledgement, discipline data,

and annual evaluation ratings remained the same over two years. Professional development, faculty involvement, and fidelity data all increased. The fidelity data rating increased the most, from 0 to 2.

In the K-8 school, the team composition remained the same over two years; however, it had the highest rating of 2 for both years. Professional development, feedback and acknowledgement, faculty involvement, discipline data, fidelity data, and annual evaluation all increased. The discipline data rating increased the most, from 0 to 2.

Next in the 6-8 school, the team composition, feedback and acknowledgement, faculty involvement, discipline data, fidelity data, and annual evaluation ratings remained the same over two years. Faculty involvement, discipline data, and annual evaluation all started with a rating of 0 in year one and remained 0 in year two. Professional development was the only rating that increased. The fidelity data rating increased the most, from 0 to 2.

For the 9-12 school, the team composition rating was the only area with a decrease, moving from a 2 to a 1 rating. Feedback and acknowledgement, discipline data, and annual evaluation ratings remained the same over two years. Professional development, faculty involvement, and fidelity data all increased.

Finally, for the Special school, the team composition, professional development, faculty involvement, discipline data, fidelity data, and annual evaluation ratings remained the same over two years. Both professional development and fidelity data had the highest rating of 2 for both years. Feedback and acknowledgement is the only rating that increased.

5.1.3 Adequacy of Resources Summary Findings

The retrospective logic model identified resources that exist in the PA School District – relationship with *PaTTAN*, a *Central Office Team,* and a *School Level Team* – and resources that need to be cultivated – *positive relationships*, *buy-in,* and *leadership*. This section provides analysis of each resource along with the questions from the TFI and SAS tools. Table 10 below provides a summary of findings for Research Question 2, which are further explained in this section.

Table 10. Summary Findings for Research Question 2

Data	Analysis	Summary Findings
PBIS School Team Self-Assessment Survey Tiered Fidelity Inventory Survey	The PBIS school team self-assessment survey category of *in place* status from 2017-2018 school year were compared to the 2018-2019 school year. Once these calculations were completed, data was coded. Tiered Fidelity inventory results for the last two years were analyzed to evaluate the adequacy of the PBIS resources provided during implementation	• In the K-5 school, the SAS whole school staff response for *school team* is positive, whereas the school team rated themselves lower in year two for *team composition*. This finding shows a disconnect between how the team feels about themselves and how the whole school staff feels about the school team. • In the K-5 school, *buy-in* ratings increased for *faculty involvement* and *fidelity data* but decreased for *feedback and acknowledgement* and *annual evaluation*. Commitment to implementing with fidelity is a focus of the annual evaluation; however, fidelity increases and annual evaluation decreases. • In the 9-12 school, the *school level team* showed an increase in the rating score for *school team* and a decrease in *team composition* and *discipline data*. This finding is intriguing because the SAS whole school staff response for school team is positive, whereas the school team rated themselves lower in year two for team composition. This finding shows a disconnect between how the team feels about themselves and how the whole school staff feels about the school team. • Lack of TFI data from the first year of implementation at the 6-12 school is not addressed in any documentation and may indicate a lack of consistency in resources or the value for ongoing data to inform processes. One area to explore would be the procedures in place to ensure that schools complete the surveys needed to provide data to assist with decision making.

In the K-5 school, the *PaTTAN* relationship relates to the components professional development and fidelity data, which both showed increased ratings. The *school level team* showed an increase in the rating score of school team and a decrease in team composition. Interestingly, the SAS whole school staff response for school team is positive, whereas the school team rated themselves lower in year two for team composition. This finding shows a disconnect between how the team feels about themselves and how the whole school staff feels about the school team. *Positive relationship* ratings remained the same for feedback and acknowledgement. *Buy-in* ratings increased for faculty involvement and fidelity data but decreased for feedback and acknowledgement and annual evaluation. Commitment to implementing with fidelity is a focus of the annual evaluation; however, fidelity increased and annual evaluation decreased. *Leadership* ratings increased for administrator support. Also, the SAS and TFI surveys do not include any questions related to *central office* team resource; therefore, no analysis is available for this resource.

In the K-8 school, the *PaTTAN* relationship relates to the components professional development and fidelity data, which both showed increases in their ratings. The *school team* rating scores for school team, discipline data, and annual evaluation increased. The team composition remained the same. *Positive relationship* ratings remained the same for feedback and acknowledgement. *Buy-in* ratings increased for faculty involvement and fidelity data and annual evaluation. *Leadership* ratings increased for administrator support. Also, the SAS and TFI surveys do not include any questions related to *central office* team resource; therefore, no analysis is available for this resource.

In the 6-8 school, the *PaTTAN* relationship relates to the components professional development and fidelity data, which both remain the same in their ratings. The *school level* team

showed an increase in the rating score of school team, and the rating remained the same for team composition, discipline data, and annual evaluation. *Positive relationship* ratings remained the same for feedback and acknowledgement. *Buy-in* ratings remained the same for faculty involvement, fidelity data, and feedback and acknowledgement. Leadership ratings decreased for administrator support Also, the SAS and TFI surveys do not include any questions related to *central office* team resource; therefore, no analysis is available for this resource.

For the 6-12 school, there was no TFI data, which limited the comparison to the logic model. Using the SAS data only, *school level team* showed an increase in the ratings for school team, and *leadership* showed an increase in the rating score of administrator support. Also, the SAS and TFI surveys do not include any questions related to *central office* team resource; therefore, no analysis is available for this resource.

In the 9-12 school, the *PaTTAN* relationship relates to the components professional development and fidelity data, which both showed increased ratings. The *school level team* showed an increase in the rating score for school team and a decrease in team composition and discipline data. The annual evaluation ratings remain the same. This finding is intriguing because the SAS whole school staff response for school team is positive, whereas the school team rated themselves lower in year two for team composition. This finding shows a disconnect between how the team feels about themselves and how the whole school staff feels about the school team. *Positive relationship* ratings remained the same for feedback and acknowledgement. *Buy-in* ratings remained the same for feedback and acknowledgement and annual evaluation, but increased for faculty involvement and fidelity data. *Leadership* ratings increased for administrator support. Also, the SAS and TFI surveys do not include any questions related to *central office* team resources; therefore, no analysis is available for this resource.

Finally, in the Special school, the *PaTTAN* relationship relates to the components professional development and fidelity data, which remained the same in their ratings. The *school level team* showed a decrease in the rating score of school team, while team composition, discipline data, and annual evaluation ratings remained the same. *Positive relationship* ratings increased for feedback and acknowledgement. *Buy-in* ratings increased for feedback and acknowledgement but remained the same for faculty involvement and fidelity data. *Leadership* ratings decreased for administrator support. Also, the SAS and TFI surveys do not include any questions related to *central office* team resource; therefore, no analysis is available for this resource.

5.2 Adequacy of Activities to Support Implementation (Research Question 3)

The third research question posed for this study was, *based on the retrospective logic model and through formative evaluation, were there adequate activities to fully implement PBIS*? The logic model included several activities that were documented by the PA School District as necessary components for PBIS implementation. The activities included in the logic model were professional development and technical support schedule and planned sessions, norms and expectations, district level team meetings and activities, school level team meetings and activities, interventions determined by data, fidelity of implementation, and accountability of all stakeholders. This particular study provided data for analyzing the adequacy of activities by using the Self-Assessment Survey and Tiered-Fidelity Inventory results for the last two years for each school.

5.2.1 Self-Assessment Survey Findings by School for Activities

The first way to evaluate the adequacy of resources was to use two questions from the Self-Assessment Survey (SAS). The questions in this section were divided into four categories: system-wide systems, classroom settings, non-classroom settings, and individual student systems. These questions are included in Appendix C. More thorough descriptions of the SAS instrument and data calculation methods are provided in Chapter 3. All data discussed below has a complementary data table that can be found in Appendix D.

The K-5 school overall showed no *in place* status increases of 30 percent or above for any question; however, 44 out of 46 questions showed an *in place* status change of 15 percent or below. The highest *in place* status increases related to staff managing non-classroom settings, academic instruction and curriculum, retraining of expected student behaviors based on data, and assessment used to identify students with problem behaviors; these areas increased from 16 to 19 percent. The most significant decreases of *in place* status include staff not knowing the difference between classroom and office management of behaviors, behavior patterns used to make decisions, student taught expectations school-wide, data used to evaluate student behavior and management, and assessment used to identify students with problem behaviors; these areas ranged from -12 to -16 percent.

The K-8 school overall showed an *in place* status increase of 30 percent or above for five questions; however, 25 out of 46 questions showed an *in place* status change of 15 percent or below. The areas with the highest *in place* status increases related to staff not knowing the difference between classroom and office management of behaviors, student rewards for positive behavior, staff managing non-classroom settings, all staff involved, and behavioral training for families; these areas ranged from 30 to 45 percent increases. The most significant decreases of *in*

place status are in the area of rewarding student behaviors, reporting student behavior data annually, and consistent consequences; these areas ranged from -1 to -10 percent.

The 6-8 school overall showed no *in place* status increases of 30 percent or above for any question; however, 45 out of 46 questions showed an *in place* status change of 15 percent or below. The highest area of *in place* status increases was student taught expectations school-wide with a 20 percent increase. The most significant decreases of *in place* status included strategies for continuing instruction when behaviors arise, behavior patterns used to make decisions, communication to families, behavioral training for families, and feedback provided to staff based on student behavior; these areas ranged from -31 to -34 percent.

The 6-12 school overall showed an *in place* status increase of 30 percent or above for 13 questions; however, 21 out of 46 questions showed an *in place* status change of 15 percent or below. The areas with the highest *in place* status increases include directly teaching students expectations, consistent consequences, students taught expectations school-wide, expected behaviors reinforced, supports created from local assessments, and feedback provided to staff based on student behavior; these ranged from 45 to 80 percent increases. The most significant decreases of *in place* status are school budget for implementation, academic instruction and curriculum, and data used to evaluate student behavior and management; these areas ranged from -23 to -40 percent.

The 9-12 school overall showed an *in place* status increase of 30 percent or above for 12 questions; however, 11 out of 46 questions showed an *in place* status change of 15 percent or below. The areas with the highest *in place* status increases are related to directly teaching students expectations, data used and summarized regularly, all staff involved, staff access to training and support, reporting student behavior data annually, students taught expectations school-wide, and

data used to inform decision making; these areas ranged from 33 to 47 percent. The most significant decreases of *in place* status are lack of administrator engagement, expected behaviors reinforced, consistent consequences, and high rates of student academic success; these areas ranged from 3 to 10 percent. There was one outlier in the data, which had a decrease of in place status by 24 percent: staff not knowing the difference between classroom and office management of behaviors.

The Special school overall showed an *in place* status increase of 30 percent or above for three questions; however, 36 out of 46 questions showed an *in place* status change of 15 percent or below. The areas with the highest *in place* status increases include retraining of expected student behaviors based on data, staff access to training and support, and a process for staff to receive support; these areas ranged from 33 to 36 percent. The most significant decreases of *in place* status include clearly stated expectations, staff not knowing the difference between classroom and office management of behaviors, and staff opportunities for improving supervision skills; these areas ranged from -16 to -22 percent.

5.2.2 Tiered-Fidelity Inventory Findings by School for Activities

The second way to evaluate the adequacy of activities was to use seven component questions from the Tiered-Fidelity Inventory (TFI). In the TFI, the topics related to adequacy of resources include: team operating procedures, behavioral expectations, teaching expectations, problem behavior definition, discipline policies, professional development, classroom procedures, feedback and acknowledgement, faculty involvement, student/family/community involvement, data-based decision, fidelity data, and annual evaluation. A more thorough description of the TFI

instrument and data calculation methods are provided in Chapter 3, and all data shared below has a complementary data table that can be found in Appendix E.

Beginning with the K-5 school, the *team operating procedures, problem behavior definition,* and *data-based decision* ratings are the only areas that show a decrease, each moving from a 2 to a 1 rating. *Behavioral expectations, teaching expectations, discipline policies, classroom procedures, feedback and acknowledgement, student/family/community involvement,* and *annual evaluation* ratings remained the same over two years. All of these areas, except for *feedback and acknowledgement,* had the highest rating of 2 for both years. *Professional development, faculty involvement,* and *fidelity data* increased. *Fidelity data* had the highest increase, from 0 to a 2 rating.

In the K-8 school, the *team operating procedures, classroom procedures, student/family/community involvement,* and *data-based decision* remained the same over two years. *Team operating procedures* had the highest rating of 2 for both years. *Behavioral expectations, teaching expectations, problem behavior definition, discipline policies, professional development, feedback and acknowledgement, faculty involvement, fidelity data,* and *annual evaluation* all increased.

Next, in the 6-8 school, the *team operating procedures, behavioral expectations, teaching expectations, discipline policies, classroom procedures, feedback acknowledgement, faculty involvement, student/family/community involvement, fidelity data,* and *annual evaluation* ratings remained the same over two years. *Discipline policies, faculty involvement, student/family/community,* and *annual evaluation* all started with a rating of 0 in year one and remained 0 in year two. *Behavioral expectations* had the highest rating of 2 for both years.

Problem behavior definition and *professional development* are the only ratings that increased from 0 to 1.

For the 9-12 school, *team operating procedures, feedback and acknowledgement, data-based decisions,* and *annual evaluation ratings* remained the same over two years. All other questions increased over two years by 1. Finally, the only rating with an increase was *feedback and acknowledgement.*

The Special school only showed increases in *feedback and acknowledgement*. The remaining questions all had 0 change. Most notably, *team operating procedures, behavioral expectations, professional development* and *fidelity data* had the highest rating of 2 for both years.

5.2.3 Adequacy of Activities Summary Findings

The retrospective logic model identified the following activities in the PA School District: professional development and technical support schedule and planned sessions, norms and expectations, district level team meetings and activities, school level team meetings and activities, interventions determined by data, fidelity of implementation, and accountability of all stakeholders. The data for this section is specific to the largest increases and largest decreases of in place status as they relate to the activities defined in the retrospective logic model. Also, the SAS and TFI surveys do not include any questions related to district level team meetings; therefore, no analysis is available for this activity. Table 11 below provides a summary of findings for Research Question 3, which are further explained in this section.

Table 11. Summary Findings for Research Question 3

Data	Analysis	Summary Findings
PBIS School Team Self-Assessment Survey Tiered Fidelity Inventory Survey	The PBIS School Team Self-Assessment Survey category of *in place* status from 2017-2018 school year were compared to the 2018-2019 school year. Once these calculations were completed, responses were coded. Tiered Fidelity Inventory results for the last two years were analyzed to evaluate the adequacy of the PBIS resources provided during implementation	• For the K-5 school activity *norms and expectations*, there is an increase of in place status for *retrained behaviors* but a decrease in *students taught expectations school-wide*. This finding infers that the staff believes the retraining is more effective than the school-wide attempt to teach behaviors. • Also for the K-5 activity *interventions determined by data*, there is an increase of in place status for *assessment used to identify students with problem behaviors* but a decrease for *behavior patterns being used to make decisions* and *data being used to evaluate student behavior and management*. This finding infers that data is used for some but not all decision making. • For the K-8 activity *school level team meetings and activities*, there is an increase of in place status for *student rewards for positive behavior* but a decrease in *rewarding student behaviors*. The decrease was for rewards school-wide; however, the increase was for rewards in non-classroom settings. This finding infers that the staff believes that rewards as a whole are not working; however, non-classroom rewards are working. • For the 6-12 activity *interventions determined by data*, there is an increase of in place status for *supports created from local assessments* and *feedback provided to staff based on student behavior*; however, *data used to evaluate student behavior and management* decreases. This finding infers that data is used for some, but not all decision making. • In the 9-12 *norms and expectations* activity, there was an increase of in place status supports for *directly teaching students expectations*, *behavioral expectations*, *teaching expectations*, *problem behavior definition*, *discipline policies*, *classroom procedures*, and *student taught expectations school-wide*; however, *expected behaviors are reinforced* and *consistent consequences* decreased. These findings infer that staff believe that students are initially taught expectations; however, staff do not believe that behaviors are reinforced or that students are held accountable for their actions. • In the 9-12 activity, *accountability of all stakeholders*, there was an increase for the *all staff involved*, *faculty involvement*, and *student/family/community involvement* but a decrease in *administrative engagement*. This finding may help us further understand the response from staff regarding student expectations and accountability, as they indicate a belief that the administrator is not engaged. • For the Special school *norms and expectations* activity, there is an increase of TFI ratings for *team operating procedures* and *behavioral expectations*; however, the SAS in place status for *clearly stated expectations* and

		staff not knowing the difference between classroom and office management of behaviors decreases. This difference between TFI and SAS for similar items implies a disconnect between the school team and the staff as a whole. • Lack of TFI data from the first year of implementation at the 6-12 school is not addressed in any documentation and indicates a lack of consistency in resources or the value for ongoing data to inform processes. One area to explore would be the procedures in place to ensure that schools complete the surveys needed to provide data to assist with decision making.

In the K-5 school, the following activities from the logic model showed a decrease of in place status: professional development and technical support schedule and planned sessions (staff not knowing the difference between classroom and office management of behaviors); norms and expectations (staff not knowing the difference between classroom and office management of behaviors, students taught expectations school-wide); and interventions determined by data (behavior patterns are used to make decisions, data used to evaluate student behavior and management). The following activities from the logic model showed an increase of in place status: norms and expectations (retraining of expected student behaviors based on data, professional development, behavioral expectations, teaching expectations, discipline policies, and classroom procedures); faculty involvement (school level team meetings and activities); interventions determined by data (assessment used to identify students with problem behaviors); fidelity of implementation (academic instruction and curriculum, fidelity data); and accountability of all stakeholders (staff managing non-classroom settings, faculty involvement, student/family/community involvement). An interesting finding for the K-5 school regarding the activity norms and expectations is the increase of in place status for retrained behaviors, but the decrease in students taught expectations school-wide. This finding infers that the staff believes the retraining is more effective than the school-wide attempt to teach behaviors. Another interesting

finding is for interventions determined by data. The data shows an increase of in place status for assessment used to identify students with problem behaviors, but a decrease of in place status for behavior patterns being used to make decisions and data being used to evaluate student behavior and management. This finding infers that data is used for some but not all decision making.

In the K-8 school, the following activities from the logic model showed a decrease of in place status: professional development and technical support schedule and planned sessions, norms and expectations, school level team meetings and activities, fidelity of implementation, and accountability of all stakeholders. The following activities from the logic model showed an increase of in place status: norms and expectations, school level team meetings and activities, interventions determined by data, and accountability of all stakeholders. An interesting finding for the K-8 activity, school level team meetings and activities, is the increase of in place status for student rewards for positive behavior, but a decrease in rewarding student behaviors. The decrease was for rewards school-wide; however, the increase was for rewards in non-classroom settings. This finding infers that the staff believes that rewards as a whole are not working; however, non-classroom rewards are working. Another interesting note based on this data is that acknowledging appropriate behaviors was at 76 percent for two years.

In the 6-8 school, the following activities from the logic model showed a decrease of in place status: professional development and technical support schedule and planned sessions, school level team meetings and activities, interventions determined by data, and accountability of all stakeholders. The following activities from the logic model showed an increase of in place status: professional development and technical support schedule and planned sessions, norms and expectations, and school level team meetings and activities. An interesting note for the 6-8 school

is a neutral response for several TFI questions. SAS only had one question receiving an increase of in place status of 20 percent: students taught expectations school-wide.

In the 6-12 school, the following activities from the logic model showed a decrease of in place status: interventions determined by data and infidelity. The following activities from the logic model showed an increase of in place status: norms and expectations and interventions determined by data. An interesting finding for the 6-12 activity, interventions determined by data, include the increase of in place status supports created from local assessments and feedback provided to staff based on student behavior; however, data used to evaluate student behavior and management decreases. This finding infers that data is used for some but not all decision making.

In the 9-12 school, the following activities from the logic model showed a decrease of in place status: norms and expectations, fidelity of implementation, and accountability of all stakeholders. The following activities from the logic model showed an increase of in place status: professional development and technical support schedule and planned sessions, norms and expectations, interventions determined by data, fidelity of implementation, and accountability of all stakeholders. Interesting findings for the 9-12 activity, norms and expectations, include the increase of in place status supports such as directly teaching students expectations, behavioral expectations, teaching expectations, problem behavior definition, discipline policies, classroom procedures, and student taught expectations school-wide; however, expected behaviors are reinforced and consistent consequences decreased. These findings infer that staff believe that students are initially taught expectations; however, staff do not believe that behaviors are reinforced or that students are held accountable for their actions. Another interesting finding is for the activity, accountability of all stakeholders. There was an increase for the questions all staff involved, faculty involvement, and student/family/community involvement, but a decrease in

administrative engagement. This finding may help us better understand the response from the staff regarding student expectations and accountability, as they indicate a belief that the administrator is not engaged.

In the Special school, the following activities from the logic model showed a decrease of in place status in the following areas: professional development and technical support schedule and planned sessions, norms and expectations, and district level team meetings and activities. The following activities from the logic model showed an increase of in place status: professional development and technical support schedule and planned sessions, norms and expectations, school level team meetings and activities, and fidelity of implementation. An interesting finding for the Special school activity, norms and expectations, includes the increase of TFI ratings for team operating procedures and behavioral expectations; however, the SAS in place status for clearly stated expectations and staff not knowing the difference between classroom and office management of behaviors decreases. This difference between TFI and SAS for similar items may imply a disconnect between the school team and the staff as a whole.

5.3 Expected Outputs/Outcomes Evaluation (Research Question 4)

The fourth and final research question in this study was, *what were the expected outputs/outcomes to date, have they occurred, and are they aligned with the logic mode*l? The logic model included outputs, outcomes, and impacts that were expected results of PBIS implementation. Three areas of data are addressed in this section to evaluate the outputs of implementation. These include a decrease in initial multidisciplinary evaluations (MDEs), a decrease in out of school suspensions, and an increase in attendance rates. In each of these areas,

subgroup analysis is provided by grade band, gender, race, IEP status, and socioeconomic status. Though graduation rates are an outcome, this study did not include graduation rate data.

The logic model also defined four outcomes that are expected from PBIS implementation. These outcomes include: *more positive school climate* and a *shift from a fixed mindset to a growth mindset* for students, *increased morale from seeing students being more successful* for teachers, and *increased student performance* for school-based administrators. This study provides data on positive school climate based on TLC Survey and Tripod Survey data; this data will be analyzed across schools and by grade band.

Finally, the logic model also identifies four impacts based on PBIS implementation. These impacts include increased time of students on task and learning and increased productive instructional time for teachers, connecting students to valuable community resources for community members, and continual mindset shift to positive and restorative climate, and culture that teaches and supports appropriate behaviors versus punishing students. The impacts specified were not a part of this study.

5.3.1 Multi-Disciplinary Evaluation Findings

The first way used to evaluate the expected outputs/outcomes was to use multidisciplinary evaluations (MDEs). MDEs are used to determine if a student is eligible for or continues to be eligible for special education services. The referral rates were analyzed by reviewing the three-year trend of referrals overall, then disaggregated by race, gender, and special education status. MDE data were not available by socioeconomic status. These rates were then compared from the 2016-2017, 2017-2018, and 2018-2019 school years to account for changes over the three-year period. A change in the number of MDE referrals was then calculated by finding the difference

between the 2018-2019 school year referrals and the 2017-2018 school year referrals; the change was recorded as a percentage.

Following is an analysis of MDEs for the three school-year periods from 2016 to 2019 for the K-5, K-8, 6-8, 6-12, 9-12, and Special schools. The data is also disaggregated by gender, race, and special education status. The 2016-2017 school year serves as the base year because PBIS was not implemented until the 2017-2018 school year. All data below has a complementary data table or corresponding figure in this chapter or in Appendix F.

As seen in Figure 3 below, an analysis of the K-8, 9-12, and Special schools showed a large decrease in overall MDEs between the 2016-2017 and 2017-2018 school years. The K-5 (12 to 26 referrals) and 6-12 (8 to 22 referrals) schools had large increases in MDEs between the 2016-2017 and 2018-2019 school years. The 6-8 school MDEs showed a decrease in the 2017-2018 school year and then, in 2018-2019, increased to the same number as the first year studied.

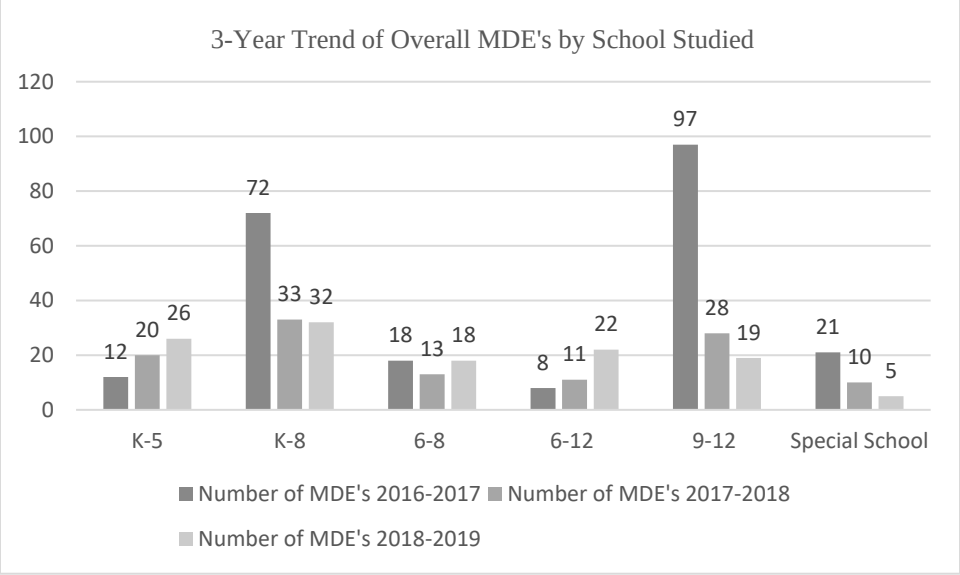

Figure 3. 3-Year Trend of Overall MDEs by Schools Studied

Data were disaggregated by several categories, beginning with gender. Female MDEs in all schools studied showed a large decrease except the 6-12 (4 to 12 referrals), where there was a large increase, and K-5 (8 to 8 referrals), where there was no change. This was the same for males, except for K-5 (13 to 18 referrals), 6-8 (8 to 16 referrals), and 6-12 (4 to 10 referrals), for which MDEs had a large increase.

The data were also disaggregated by race. African-American student MDEs in all schools studied decreased, except in K-5 (6 to 8 referrals) and 6-12 (4 to 11 referrals), where they increased. White student MDEs in all schools studied decreased, except in 6-8 (6 to 8 referrals) and 6-12 (4 to 11 referrals), where they increased, and Special schools (2 to 2 referrals), where MDEs remained the same. The largest decrease was for the white students in the 9-12 (40 to 4 referrals) school, with a 90.0 percent reduction, and for African-American (18 to 3 referrals) students in the Special school, with an 83.3 percent reduction. Other race student MDEs decreased in all schools studied except for an increase in the K-5 (2 to 7 referrals) and 6-12 (5 to 15 referrals) schools. In the 6-8 school, there was no change. It is important to note that the 6-8, 6-12, and Special schools had fewer than two suspensions per year for Other race students.

Finally, the data were disaggregated by special education status. IEP student MDEs decreased in all schools except K-5 (2 to 7 referrals) and K-8 (5 to 15 referrals), where they increased, and 6-12, where there was no change. The Special school had the largest decrease with a 76.2 percent reduction. There were no gifted student MDEs in any school studied. Finally, student MDEs for non-IEP or gifted showed a large decrease in all schools studied except K-5, where there was no change, and 6-12 (7 to 21 referrals), where there was a large increase, and 6-8 (3 to 4 referrals), where there was a small increase.

5.3.2 Multi-Disciplinary Evaluation Summary Findings

There are a few summary findings for the MDE section.

The first is the 6-12 school, which had an increase in overall MDEs and in each disaggregated subgroup. Next, there were schools and subgroups that decreased their MDEs each year over the three-year period, including overall in K-8, 9-12, and Special schools; African-Americans in K-8, 9-12, and the Special schools; Other races in 9-12 and the Special school; females in 6-8, 9-12, and Special schools; males in K-8, 9-12, and Special schools; and non-IEP or gifted in K-8 and 9-12.

Finally, there were schools and subgroups that increased their MDEs each year over the three-year period, including overall MDEs in K-5 and 6-12; African-American and white students in 6-12; females in 6-12 and males in K-5 and 6-8; and non-IEP or gifted in 6-12 and IEP in K-5 and K-8.

5.3.3 Suspension Rate Findings

The second source of data used to evaluate the expected outputs/outcomes was suspension data. Suspensions are a consequence for behavior that violates the school code of conduct. The suspension data utilized for this study were out-of-school suspensions. The suspension rates were analyzed by reviewing the three-year trend for suspensions overall and also disaggregated by race, gender, socioeconomic status, and special education status. These rates were then compared across the 2016-2017, 2017-2018, and 2018-2019 school years to account for changes over the three-year period of time. A change in suspensions was calculated by finding the difference between the

2018-2019 school year suspensions and the 2017-2018 school year suspensions; the change was recorded as a percentage.

Following is an analysis of suspension data for the period of 2016-2017 to 2018-2019 for all grade bands in the study: K-5, K-8, 6-8, 6-12, 9-12, and Special school. The data is also disaggregated by gender, race, special education, and socioeconomic status. The 2016-2017 school year serves as the base year for data because PBIS was not implemented until the 2017-2018 school year. All data presented below have a complementary data table or corresponding figure, most available for review in Appendix F.

As seen in Figure 4 below, all schools studied showed a decrease in overall suspensions except the K-5 (2 to 2 suspensions) school. The Special school had the largest reduction in suspensions. The K-5 school stayed the same from year one to year three with two or fewer suspensions per year.

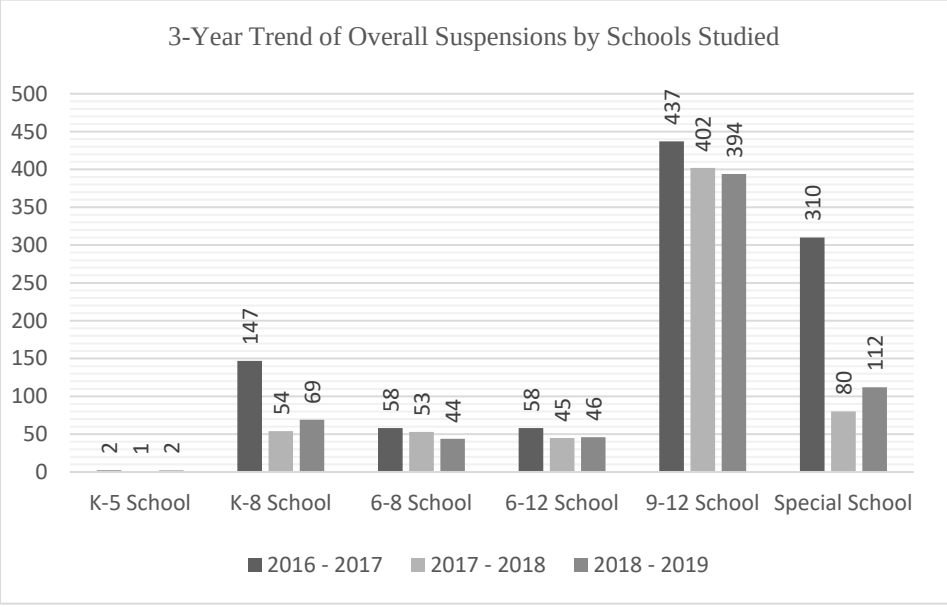

Figure 4. 4-Year Trend of Overall Suspensions by Schools Studied

The data were disaggregated by several categories, beginning with gender. Female suspensions in all schools studied moderately decreased. This was the same for males, except for K-5, where suspensions increased (but it is important to note that the K-5 school did not have more than two suspensions per year). The Special school (235 to 80 suspensions) and K-8 (96 to 44 suspensions) had the largest decrease in suspensions for males.

The data were also disaggregated was by race. African-American student suspensions in all schools studied decreased, except in 9-12 (202 to 288 suspensions), where it increased, and K-5 (1 to 1 suspensions), where suspension remained the same. The largest suspension decrease for African-Americans was in the Special school (289 to 105 suspensions). White student suspensions in all schools studied moderately decreased, except in 6-12 (20 to 21 suspensions), where there was a very small increase, and K-5, where suspension data remained the same and was under two suspensions per year. Multiracial student suspensions moderately decreased in all schools studied except the K-8 (9 to 12 suspensions) and 6-12 (3 to 5 suspensions) schools, where it moderately increased. Finally, Hispanic student suspensions occurred in only the 6-12 (0 to 3 suspensions) and 9-12 (2 to 3 suspensions) schools studied, and both showed an increase; however, suspensions were three or fewer each year.

Next, the data were disaggregated by special education status. IEP student suspensions decreased in all schools except 6-12 (3 to 5 suspensions), where it increased, and K-5, where there was one suspension per year. The Special school (310 to 112 suspensions) had the largest reduction in suspensions for IEP students. Gifted student suspensions were recorded in only the 6-8, 6-12, and 9-12 schools. There was a decrease in suspensions in 6-8 (6 to 0 suspensions) and an increase in 6-12 (7 to 9 suspensions) and 9-12 (10 to 11 suspensions). Finally**,** student suspensions for non-IEP or gifted showed a decrease in all schools studied except K-5, where it

remained the same, and the Special school because only special education students attend this school.

Finally, the data were disaggregated by socioeconomic status. Low socioeconomic student suspensions decreased in all schools studied except for an increase in 9-12 (356 to 365 suspensions) and no change in K-5, where there were two suspensions or fewer per year. The Special school (279 to 105 suspensions) had the highest reduction in suspension for low socioeconomic students. Finally, for non-low socioeconomic student suspensions, there was a decrease in all schools studied except a small increase in 6-8 (0 to 3 suspensions) and no change in K-5, where there were two suspensions or fewer per year.

5.3.4 Suspension Data Summary Findings

First, the Special school studied had a decrease in suspensions overall and in each disaggregated subgroup. This is particularly noteworthy because the students at this school are placed based on significant behavior needs that cannot be met at a typical school.

The second finding involves the schools and subgroups that decreased their suspensions each year over the three-year period. This includes overall suspensions in 6-8 and 9-12; by race, African-Americans in 6-12, white students in 6-8 and 9-12, and multi-racial students in the Special School; by gender, males in 6-12; by special education status, IEP students in K-8 and gifted students in 6-8; and low socioeconomic students in 6-8 and not low socioeconomic in 6-12.

The third finding was that African-American students in 9-12 (262 to 263 to 288 suspensions) had increased suspensions each year over the three-year period. This finding validates literature that ascertains that African-American students are more likely to be suspended

(Fabelo, Thompson, Plotkin, et al., 2011) and leads to questions about possible implicit bias at this school.

5.3.5 Attendance Rate Findings

The third source of data used to evaluate the expected outputs/outcomes was average attendance rates. Average attendance rates are defined as the average number of days a student is present during the assigned days in a school year. The average attendance rates were analyzed by reviewing the three-year trend of average attendance rate overall and disaggregated by race, gender, socioeconomic status, and special education status. These rates were then compared from the 2016-2017 school year, 2017-2018 school year, and 2018-2019 school year to account for changes over the three-year period of time. A change in the average attendance rate was calculated by finding the difference between the 2018-2019 average attendance rate and the 2017-2018 school year average attendance rate; the change was recorded as a percentage.

The following is an analysis of attendance data for the three school year periods from 2016-2017 through 2018-2019 for all schools studied: K-5, K-8, 6-8, 6-12, 9-12 and Special schools. The data are also disaggregated by gender, race, special education, and socioeconomic status. The 2016-2017 school year serves as the base year for data because PBIS was not implemented until the 2017-2018 school year. All data below has a complementary data table or corresponding figure; most are available for further review in Appendix F.

As seen in Table 12 below, all schools studied showed an increase in average attendance rates except the K-8 (90.4 percent to 90.2 percent) school. This is important to note because it is more difficult to increase student attendance when the rate is already in the 90 percent range. The K-8 school had a minor decrease of .20 percent.

Table 12. Overall Attendance Rate by School Studied

School	2016-17 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
K-5	92.5%	94.5%	94.2%	+1.7%
K-8	90.4%	90.0%	90.2%	-0.2%
6-8	92.3%	91.3%	92.9%	+0.6%
6-12	94.0%	94.8%	94.5%	+0.5%
9-12	86.7%	87.0%	86.9%	+0.2%
Special	73.1%	77.8%	84.7%	+11.6%

The data were disaggregated by several categories, beginning with gender. Female attendance rates increased in all schools studied, except for 9-12 (86.6 percent to 84.5 percent rate), where attendance decreased. The largest increase for females was in the Special school (72.6 percent to 79.8 percent rate) where it increased by 7.2 percent. Male attendance rates increased in all schools studied. The largest increase for males was in the Special school (73.2 percent to 86.8 percent rate), where it increased by 13.6 percent.

The data were also disaggregated by race. African-American attendance rates in all schools studied increased, except in the K-8 (90.9 percent to 90.4 percent) and 6-8 school (93.1 percent to 92.6 percent), where it decreased. The largest increase for African-Americans was the Special school with a 12.3 percent increase. White student attendance rates showed a small increase in all schools studied except the K-8 (90.1 percent to 88.8 percent), 9-12 (88.2 percent to 88.0 percent), and Special school, where it decreased. The largest decrease in attendance rate for white students was in the Special school (89.8 percent to 77.6 percent), with a 12.2 percent decrease. Other student attendance rates moderately increased in all schools studied except the 9-12 school (90.8 to 89.5 percent), where it decreased, and the 6-12 school, where there was no change.

The data were then disaggregated by special education status. IEP student attendance rates increased in all schools except the K-8 (91.5 percent to 89.5 percent) and 6-12 (94.6 percent to

94.5 percent), where it decreased. The Special school (73.3 percent to 84.6 percent) had the highest increase in IEP attendance rate with an 11.3 percent increase. Gifted student attendance rates increased in all schools studied except K-8 (96.5 percent to 85.2 percent), 6-12 (96.0 percent to 95.8 percent), and 9-12 (92.6 percent to 89.5 percent), where it decreased. There are no gifted students at the Special school. Finally, student attendance rates for non-IEP or gifted showed an increase in all schools studied except 9-12, where it remained the same, and the Special school because only special education students attend this school.

Finally, the data were disaggregated by socioeconomic status. Low socioeconomic student attendance rates showed small increases in all schools studied except for a large increase in the Special school (74.2 percent to 85.1 percent). The K-8 (91.1 percent to 89.3 percent), 6-12 (92.9 percent to 92.2 percent), and 9-12 (86.5 percent to 85.0 percent) schools showed small decreases in low socioeconomic student attendance rates. Finally, for non-low socioeconomic student attendance rates, there was an increase in all schools studied. The highest increase was at the K-8 school (88.2 percent to 95.6 percent) with a 7.4 percent increase.

5.3.6 Attendance Rate Summary Findings

There are a few summary findings for the attendance rate data in this section. First, the K-5 school had an increase in attendance rate overall and in each disaggregated subgroup. Next, there were schools and subgroups that increased their attendance rates each year over the three-year period, including overall attendance rate in the Special school; female attendance rate in K-5 and males in 6-12, 9-12, and Special schools; African-Americans in K-5 and Special schools, and Other race students in K-8, 6-8, and Special schools; IEP students in K-5, 9-12, and Special schools; and low socioeconomic students in Special school and not low socioeconomic in K-5, K-8, and 9-12.

Also, some schools and subgroups decreased their attendance rate each year over the three-year period, including IEP students in K-8 and gifted students in K-8 and 9-12, and low socioeconomic in the K-8 and 9-12 schools.

5.3.7 Positive School Climate Data for Each Grade Band

Positive school climate was evaluated by reviewing three-year survey results for the Teaching and Learning Conditions (TLC) Survey administered to teachers and the Tripod Student Perceptions Survey administered to students.

The TLC survey is administered to every staff member in the school. Staff members are asked to rate statements using the following scale: "strongly agree, agree, disagree, and strongly disagree" (TLC, 2018). Specifically, the study used the responses to the following TLC questions about student conduct: "5.1a. Students at this school understand expectations for their conduct, 5.1b. Students at this school follow rules of conduct, 5.1e. School administrators support teachers' efforts to maintain discipline in the classroom, 5.1f. Teachers consistently enforce rules for student conduct, and 5.1g. The faculty work in a school environment that is safe" (TLC, 2018). Responses to these questions are presented as a composite percentage score under the category of managing student conduct. The data are reported as the percentage of the staff that *strongly agree* or *agree* that the management of student conduct is favorable.

Analysis for this survey was conducted by comparing the results from year to year and by calculating a change in the TLC responses from the 2016-2017 school year to the 2018-2019 school year. This data is found in Table 14 below. In addition, the results per school were compared to the grade band average for these questions, found in table 13 below. The TLC Survey does not provide responses by race, gender, special education, or socioeconomic status.

Table 13. TLC Average Score for Managing Student Conduct by Grade Band

Grade Band	Total Number of Schools	Average of 2016-2017 TLC Results%	Average of 2017-2018 TLC Results %	Average of 2018-2019 TLC Results %	Change in TLC Results %
K-5	23	70.8%	73.3%	75.9%	+5.1%
K-8	11	65.5%	65.5%	64.5%	-1.0%
6-8	7	78.9%	75.4%	79.0%	+0.1%
6-12	5	56.6%	48.4%	52.4%	-4.2%
9-12	4	62.0%	58.3%	60.5%	-1.5%
Special	6	76.7%	80.0%	82.0%	+5.3%

Table 14. TLC Average Score for Managing Student Conduct by School Studied

School	2016-2017 TLC Results %	2017-2018 TLC Results %	2018-2019 TLC Results %	Change in TLC Results %
K-5	99.0%	97.0%	92.0%	-7.0%
K-8	73.0%	75.0%	59.0%	-14.0%
6-8	85.0%	70.0%	62.0%	-13.0%
6-12	57.0%	56.0%	62.0%	+5.0%
9-12	81.0%	78.0%	86.0%	+5.0%
Special	28.0%	56.0%	58.0%	+30.0%

An analysis of the TLC scores for managing student conduct showed a small decrease each year in the K-5 and 6-8 schools. The TLC scores for managing student conduct showed a small increase each year in the Special school. In the 6-12 and 9-12 schools, there was a small decrease from 2016-2017 to 2017-2018 and an increase in 2018-2019 compared to the 2016-2017 score. Finally, the K-8 school had a small increase from 2016-2017 to 2017-2018 and then a moderate decrease in 2018-2019, which was lower than the 2016-2017 score.

When comparing the schools with the average TLC score by grade band for managing student conduct, three schools outperformed their grade band counterparts with an increased favorability score. Specifically, the K-5 school outperformed other schools in its grade band by 13.1 percent. The 6-12 school outperformed other schools in its grade band by 9.6 percent, and the 9-12 School outperformed other schools in its grade band by 25.5 percent. When comparing the schools in this study with the average TLC score by grade band for managing student conduct, three schools underperformed their grade band counterparts with a decreased favorability score. These schools included the K-8 school with a 5.5 percent difference, the 6-8 school with a 17.6 percent difference, and the Special school with a 24.0 percent difference.

The second instrument used to evaluate positive school culture was the Tripod survey. The Tripod survey is administered to all students in grades 3 -12 twice a year. Students are asked to rate statements using the following scale for grades 3-5: "1= No, Never, 2=Mostly Not, 3=Maybe/Sometimes, 4=Mostly Yes and 5=Yes, Always. Students are asked to rate statements using the following scale for grades 6-12: 1=Never, 2=Usually Not, 3=Sometimes, 4=Usually and 5=Always" (Tripod, 2018). Specifically, the study included the responses to the following question on the Tripod Student Perceptions Survey related to school safety*:* "This school feels like a safe place for me" (Tripod, 2018). Responses to this question were compared from year to year and by calculating a change in the Tripod responses from the 2016-2017 school year to the 2018-2019 school year. In addition, the results per school were compared to the district average for these questions as well as the grade band average for these questions. The Tripod Student Perception Survey does not categorize results by race, gender, special education, or socioeconomic status.

An analysis of the Tripod scores, found in Table 15, for the statement *this school feels like a safe place to me* showed a small increase in the total percentage of individuals who answered this question with "agree" and "strongly agree" in the K-5 school (81.8 percent to 83.8 percent agreement) from the 2016-2017 to 2018-2019 school years. All other grade bands showed a small decrease in overall agreement.

When comparing the schools in this study with the average Tripod agreement percentage by grade band, two schools, the K-5 and 6-12 schools, outperformed their grade band counterparts with a lower decrease in their change of agreement percentages. When comparing the schools in this study with the average TLC score by grade band for managing student conduct, three schools (the K-8, 6-8, and 9-12 schools) underperformed their grade band counterparts by having a higher decrease in their change of average agreement percentages. The Special school did not have a reported grade band average for the Tripod. The reason for the lack of data in unclear based on the secondary data received from the district. This data can be found in Table 16 below.

Table 15. Tripod average total % of agree and strongly agree by schools studied

School	2016-2017 Total % of Agree and Strongly Agree	2017-2018 Total % of Agree and Strongly Agree	2018-2019 Total % of Agree and Strongly Agree	Change in Total % of Agree and Strongly Agree
K-5	81.8%	84.9%	83.8%	+2.0%
K-8	57.0%	52.5%	46.8%	-10.2%
6-8	67.3%	60.6%	56.8%	-10.5%
6-12	76.5%	73.5%	74.2%	-2.3%
9-12	47.7%	40.6%	42.6%	-5.1%
Special	29.2%	23.8%	25.0%	-4.2%

Table 16. Tripod average total % of agree and strongly agree by Grade Band

Grade Band	2016-2017 Total % of Agree and Strongly Agree	2017-2018 Total % of Agree and Strongly Agree	2018-2019 Total % of Agree and Strongly Agree	Change in Total % of Agree and Strongly Agree
District Average	62.6%	60.5%	56.9%	-5.7%
3-5 Grade Band	75.6%	74.7%	75.1%	-0.5%
6-12 Grade Band	54.2%	50.6%	50.1%	-4.1%

5.3.8 Positive School Culture Summary Data Findings

Upon reviewing the findings from the positive school culture data, there were three findings of note. The TLC average score for managing student conduct in the schools showed that three schools in the study showed an increase in average scores, and three showed a decrease in average scores. For the Tripod survey all grade bands, except for the K-5 school, showed a decrease in the total percentage of "agree" and "strongly agree" responses from the 2016-2017 to the 2018-2019 administration. Also, the teacher positive culture perception data showed a more positive change in climate data than the student perception data, based on the positive TLC results for three schools and the Tripod with only one school with positive data.

5.3.9 Triangulation by School Studied

The use of data from multiple sources allowed for triangulation of data. Connections between suspension, attendance, MDEs, and survey results allow for a deeper evaluation of outputs/outcomes for each school. Table 17 below provides a summary of findings for Research Question 4 and then further explained in this section.

Table 17. Summary Findings for Research Question 4

Data	Analysis	Summary Findings
Suspension Rates Attendance Rates Multidisciplinary evaluation referral Rates Positive School Climate Data: Teaching and Learning Conditions (TLC) Survey and Tripod Student Perceptions Survey	School suspensions, attendance rates, and Multidisciplinary evaluations were evaluated by reviewing the number of a three-year trend of school suspensions. Positive school climate was evaluated by reviewing three-year survey results for the survey administered to teachers called the Teaching and Learning Conditions (TLC) Survey and the survey administered to students called the Tripod Student Perceptions Survey.	• All schools studied showed a decrease in overall suspensions except the K-5 (2 to 2 suspensions) school. The Special school had the largest reduction in suspensions. The K-5 school stayed the same from year one to year three with two or fewer suspensions per year. • African-American students in 9-12 (262 to 263 to 288 suspensions) had increased suspensions each year over the three-year period. This finding validates literature that ascertains that African-American students are more likely to be suspended (Fabelo, Thompson, Plotkin, et al., 2011). • All schools studied showed an increase in average attendance rates except the K-8 (90.4 percent to 90.2 percent) school. This is important to note because it is more difficult to increase student attendance when the rate is already in the 90 percent range. The K-8 school had a minor decrease of .20 percent. • The teacher positive culture perception data showed a more positive change in climate data than the student perception data, based on the positive TLC results for three schools and the Tripod with only one school with positive data. This infers that more time is focused on how adults feel in the school environment, than on how the students feel. • The K-5 school showed an increase in the positive school climate results for both staff and student perception data, very low suspensions, and increases in attendance. However, MDEs overall more than doubled over three years, with increases in male, African-American, other race, and IEP student evaluations. This disconnect might lead to questions about how the school team could utilize data to change PBIS implementation in order to better support students. Rather than doubling the number of students in special education, making changes to the school process could improve behavioral supports for students and thus allow them to remain in regular education courses.

The K-5 school showed an increase in the positive school climate results for both staff and student perception data. This finding is supported with fewer than two suspensions per year overall and in each disaggregated group, and positive increases in attendance overall and by each disaggregated group. However, MDEs overall more than doubled over three years, with increases in male, African-American, other race, and IEP student evaluations. There was no change for females, non-IEP, and gifted student evaluations, and there was a small decrease in white student evaluations.

The K-8 school showed a decrease in positive school climate results for both staff (-1.0 percent) and students (-10.2 percent). The data overall shows mixed findings. MDEs overall showed a decreased by more than half from 72 to 32, with decreases in all disaggregated groups except females, IEP, and gifted student evaluations. There were no MDEs for non-IEP or gifted students. Overall, suspensions had a large decrease, cutting suspensions in half. All disaggregated groups decreased, except multiracial students, which increased, and Hispanic and gifted students, who had no suspensions. The overall attendance rate decreased slightly for the K-8 school. K-8 females, males, other races, non-IEP or gifted, gifted, and non-low socioeconomic students all had increases in the attendance rate, and all other groups decreased.

The 6-8 school showed a very small increase in the positive school climate results for staff (.10 percent) and a decrease in student perceptions data (-10.5 percent). The data overall shows mixed findings. MDEs overall remained the same over three years. There was a large decrease in female MDEs and a small reduction in African-American and IEP evaluations, and no change for other race students with one in the first year and the third year. Overall suspensions had a small decrease. All disaggregated groups had small decreases, except white and multiracial students, who had a large decrease. The overall attendance rate increased slightly for the 6-8 school. In that

school, females, males, white students, other race, IEP, non-IEP or gifted, gifted, low socioeconomic, and not low socioeconomic students all had increases in the attendance rates, while the African-American attendance rate decreased.

The 6-12 school showed a small decrease in the positive school climate results for both staff (-4.2 percent) and students (-2.3 percent). The data overall shows mixed findings. MDEs overall showed a large increase by tripling the evaluation number from year one to three, and the evaluations increased in each disaggregated group, except gifted. There were no MDEs for gifted students. Overall suspensions had a moderate decrease. All disaggregated groups decreased minimally, except white, Hispanic, multiracial, IEP, and gifted student categories, which had small increases. The overall attendance rate increased slightly for the 6-12 school and in each disaggregated group, except IEP and low socioeconomic students, who had small decreases, and Other race students, who showed no change.

The 9-12 school showed a small decrease in the positive school climate results for both staff (-1.5 percent) and students (-5.1 percent). The data overall shows mixed findings. MDEs overall show a very large decrease from year one to three, and evaluations decreased in each disaggregated group, except for gifted. There were no MDEs for gifted students. Overall suspensions had a small decrease, with white students and not low socioeconomic demonstrating large decreases. All disaggregated groups decreased minimally, except African-American, Hispanic, gifted students, and low socioeconomic, student groups which had small increases. The overall attendance rate increased slightly for the 9-12 school. Female and gifted students had a large decrease in attendance rates. Males and non-low socioeconomic groups had a large increase in attendance rates. African-American, Other race, and IEP students had moderate increases in

attendance rates, and white and low socioeconomic students had small decreases in attendance rates. There was no change in the non-IEP or gifted attendance rates.

The Special school showed a large increase in the positive school climate results for staff (+30.0 percent) and a decrease for students (-4.2 percent). MDEs overall showed a large reduction over three years, with decreases in each disaggregated group. Overall percentages and each disaggregated group showed large reductions in suspensions, except multiracial suspensions, which had a small reduction, but also small suspension numbers. Attendance rate increases at the Special school were large overall for females, males, African-Americans, other race, IEP, low socioeconomic, and not low socioeconomic students. The only large reduction in attendance rates was for white students.

Chapter six provides further discussion of the data analysis as well as implications, recommendations for practice, limitations of this study, and considerations for future studies.

6.0 Implications and Recommendations

6.1 Implications

6.1.1 Developing and Using a Theory of Action and Logic Model Might Assist with Implementation of PBIS

The implementation of a new system such as PBIS requires planning to ensure the best possible outcomes. This planning can occur with the development of a theory of action and logic model. The district in this study did not have a theory of action and logic model in place; thus, one was created retrospectively by the researcher. A theory of action identifies a problem to be addressed and the subsequent actions needed to provide a resolution to the problem (W.K. Kellogg Foundation, 2004). The theory of action articulates the overall purpose and logic for the improvement effort. A logic model then provides a graphic representation of how "the relationships among the resources you have to operate your program and the activities you plan, will produce the changes or results you hope to achieve" (W.K. Kellogg Foundation, 2004, p.1).

Two criteria should be considered regarding the implementation of a theory of action and logic model. First, a theory of action and logic model should clearly articulate the resources and activities needed to implement PBIS with fidelity. Clearly identifying resources and activities may clarify the key implementation components, which would help with planning when and how stakeholders would be engaged in the work. Clear expectations make it more feasible for stakeholders to engage and to remain engaged because they know what is expected of them.

Second, the development of a theory of action could support evaluation through identifying outcomes and outputs. Identifying outcomes and outputs, in turn, would assist with evaluating system improvement efforts (Patton, 2005). The district documents used to create the retrospective theory of action and logic model articulated a variety of outcomes and outputs; however, the documents did not specify how those outcomes and outputs would be measured. The lack of measurement guidelines could make it difficult for a school team to know if they are making progress through PBIS implementation. In particular, it could be difficult to monitor data, not knowing how progress should be measured. If goal setting takes place with respect to outcomes and outputs, the school level team can monitor progress and work towards achieving those goals more effectively.

6.1.2 Collection and Use of Data Are Important to Guide Implementation of PBIS

Data are key for ensuring PBIS implementation is successful. Specifically, PBIS implementation requires a school or district to "…(a) identify meaningful outcomes; (b) establish and invest in school-wide systems; (c) select and implement contextually appropriate, evidence-based practices; and (d) collect and use data to make decisions" (Simonson, Sugai, & Negron, 2008, p. 34). The school or district must identify "observable, measurable, specific, and achievable annual outcomes" such as reduction in suspensions, increased achievement scores, attendance rates, etc. that will be used to monitor yearly progress (Simonson, Sugai, & Negron, 2008, p. 34). The PA School District implementation documents did indicate outcomes; however, they were not quantifiable or easily measurable. The language regarding data was quite general, only stating team members would use "…data interpretation, as well as helping teams throughout the district to adhere to consistent structures" (PBIS Installation Training Plan, 2017, p. 2). Structures and

processes were not articulated in the implementation documents, and no measurement was specified for outcomes.

In addition, findings from the study suggest that while some data were collected, the information may have been under-utilized in making decisions. For instance, the Special school SAS data related to adequacy of resources showed an increase in the rating score of *school team*; however, there was a decrease in *team composition* for the TFI data. This data is presented in Appendix F, Table 35, Summary Findings for Research Question 2. This is noteworthy because the SAS survey was taken by the whole school, whereas the TFI survey was completed by the school team only. This finding shows a possible disconnect between how the team perceived their engagement versus perceptions of their whole school staff. Better monitoring and discussion of data may have led to useful changes.

Another example from the findings is the lack of two years of TFI data for the 6-12 school. This data is presented in Appendix F, Table 35 and 36, Summary Findings for Research Question 2 and 3. A lack of data from the first year of implementation is not addressed in any documentation and may indicate a lack of consistency in resources or the value for ongoing data to inform processes. One area to explore would be the procedures in place to ensure that schools complete the surveys needed to provide data to assist with decision making.

A final example comes from the triangulation of the K-5 outputs and outcomes data. This data is presented in Appendix F, Table 37, Summary Findings for Research Question 4. The K-5 school showed an increase in the positive school climate results for both staff and student perception data, very low suspensions, and increases in attendance. However, MDEs overall more than doubled over three years, with increases in male, African-American, other race, and IEP student evaluations. This disconnect might lead to questions about how the school team could

utilize data to change PBIS implementation in order to better support students. Rather than doubling the number of students in special education, making changes to the school process could improve behavioral supports for students and thus allow them to remain in regular education courses.

6.1.3 Training and Coaching is Important for Implementation of PBIS

Training and coaching are two essential components of PBIS. OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports (2018) recommends the following: training guides for implementation, a PBIS training calendar that is accessible to all, opportunities for like peer groups to collaborate, a sustainability plan focused on internal trainers, and coaching that takes place on a regular basis to provide feedback and support with implementation. Training and coaching allow for an improvement cycle focused on analyzing progress toward the desired outcomes. A few implications could be explored related to professional development in the PA School District.

First, a PBIS Implementation Training Plan document was created for the first year and included in-person and online training and coaching (PBIS Implementation Training Plan, 2017). This document provided extensive opportunities for training and coaching for the district level team and school level teams. The document did not reveal training and coaching plans for the following years. Continued support is important to ensure sustainability and successful implementation of PBIS.

A clear training and coaching plan may help to ensure stakeholders share perceptions and expectations. For instance, in the 9-12 school, the SAS survey data reveal staff knowledge of specific classroom and office responsibilities for behavior responses, and showed a significant

decrease from year one to year two. This data is presented in Appendix F, Table 36. This finding is as an outlier from the remainder of the SAS data, and could be due to a variety of reasons. For instance, perhaps procedures changed, philosophies changed, and/or leadership changed. Data shows a need for training that clearly identifies the difference between classroom and office managed behaviors to ensure that support for students is distributed equitably and effectively. A further look at the data shows a connection between a decrease in administrator engagement and consistent consequences. These findings infer that administrators have potentially disengaged from the work, which has affected the way they administer consequences. In turn, this finding may suggest a needed reset and retraining for the administrators to ensure consistency with the school team about expected norms and expectations.

6.1.4 Complexity of PBIS Implementation

The complexity of PBIS implementation is a necessary topic to consider. Other school initiatives, varying school environments across the district, a large workforce, a large and diverse student population and additional areas for improvement across the district only begins to describe the complexity of PBIS implementation in a large urban district. Urban educational settings have a variety of demographic, structural, and cultural challenges. The demographic challenges that appear in urban settings relate to higher numbers of economically disadvantaged students, racially and ethnically diverse students, immigrants and English language learners, and higher student mobility rates (Kincheloe, 2004, 2010). Subsequently, all of these factors impact the effectiveness of structure and processes related to declining student achievement (Rumberger & Palardy, 2005). PBIS is not exempt from this challenge. Implementation of PBIS in a district with close to 60 schools can be challenging to ensure fidelity and subsequent positive outcomes. Each school must

be valued for its uniqueness; however, specific supports and standards must be set as a district to ensure each school can manage their unique needs while setting and monitoring goals, managing implementation, and organizing training and coaching. This requires a tricky balance of district level controls and local controls at the school level to ensure a best fit scenario for implementation.

Furthermore, it is important to note that districts across the country are moving towards implementation of Multi-Tiered Systems of Evaluations, for which PBIS is just a piece of a much larger puzzle. Students are universally screened, data are reviewed, and students are recommended for placement in one of three tiers of support, and then supports are created for each of these tiers (Belser, Shillingford, & Joe, 2017). PBIS is a Tier 1 intervention, which leaves the need for districts to also plan for Tier 2 and Tier 3 interventions for students who need additional support beyond programs like PBIS.

6.2 Recommendations for Practice

6.2.1 Putting Data into Practice

PBIS data regarding students, classrooms, and districts, including annual reports, should be used to provide feedback on implementation and assist with decision making and planning supports (OSEP, 2018). Findings from this study indicate that implementation documents lacked specific strategies for reviewing data in order to assist with feedback on implementation. Suggestions might include using TFI and SAS data to determine the need for additional training and coaching, considering how fidelity data correlates with outcome data, and quantifying and reviewing outcomes regularly. The impact of PBIS on the school environment, if implemented

with fidelity, can significantly impact school culture. Fidelity includes explicitly teaching students expected behaviors and allowing students to practice these behaviors, while consistently recognizing students' choices to demonstrate the expected behaviors (Sugai & Horner, 2006). PBIS can reduce major discipline infractions, aggressive behaviors, bullying incidents, and teacher turnover, and it can increase academic achievement, perceptions about school safety, and school climate (OSEP National Technical Assistance Center on PBIS, 2018). A recommendation from this study is to establish consistent ways to measure outcomes, increase the frequency of data review, establish norms and expectations for using data, and clarify actionable ways to use data as feedback to improve implementation.

This study found that there is an extensive amount of data connected to PBIS implementation. Inefficient and ineffective utilization of these data make concerted and focused efforts toward student outcomes less likely. Categorizing the data in three areas; implementation, outcomes, and perception, may be helpful. The first, implementation, could include a deep dive into TFI and SAS data. Starting with baseline data and then establishing long-term and short-term goals could be set to ensure growth in implementation effectiveness for both the school-level team and the entire school staff. These goals could be reviewed with the staff and monitored through one-on-one meetings, department meetings, and school-level meetings to collect feedback and provide positive reinforcement to ensure the goals are met. The goals set for growth might also have a direct correlation to the training and coaching that is provided to both the school-level team and entire school staff.

Second, outcome data could be used to monitor the effects of implementation on student behaviors. Specifically, long- and short-term goals could be set based on the needs of each school for MDEs, attendance, and suspensions. These goals could be specific to overall, race, gender,

socioeconomic status, and special education status. Based on the literature review, individuals most affected by exclusionary disciplinary policies are African-American or Latino as well as low income and/or special education students. Specifically, students of color are disproportionately suspended compared to their white peers. A study by Justice Matters Institute found that discipline history was a strong predictor of high school dropout and that African-American males were more likely to drop out because of this type of history than any other racial group (Sandler, 2003). The University of California at Los Angeles' Civil Rights Project found that students who drop out are more likely to earn less money, live without health insurance, rely on public assistance, and experience recidivism (Rumberger & Losen, 2016). Socioeconomic status is another predicting factor for student suspensions and juvenile delinquency involvement. Students who are categorized as having low socioeconomic status have higher rates of suspensions and expulsions from school (Skiba, Trachok, Chung, Baker, Sheya, & Hughes, 2013). Furthermore, the New York Civil Liberties Union released a report in 2013 that highlighted how zero tolerance discipline practices can directly affect low income and special education students. The report found that special education students were suspended twice as often as general education students. These factors could be considered by school-level teams when setting goals and monitoring progress in order to decrease the possibility of students to enter the school-to-prison pipeline.

A plan for how to monitor and act upon data at the school and classroom levels could be established to ensure all stakeholders are involved in improving outcomes for students. In addition, data could be shared with students and staff and a clear communication plan could be established. Finally, goals set could also have a direct correlation to the training and coaching that is provided to both the school-level team and entire school staff, which might ensure the best possible outcomes for students.

Third, perception data could be used to monitor the perception of all students and staff about the school environment. Starting with baseline data, long- and short-term goals could be set to monitor progress from year to year. These goals could then be reviewed with the staff and monitored through one-on-one meetings, department meetings, and school-level meetings to collect feedback and provide positive reinforcement, which might ensure the goals are met. The goals set for growth could also have a direct correlation to the training and coaching that is provided to both the school-level team and entire school staff.

Finally, it is important to triangulate this data because implementation, outcomes, and perception data affect the outcomes of one another. These areas are interconnected and can positively or negatively affect the outcomes of one another. There is a need for school-level teams to communicate frequently to ensure that all data is considered for a successful implementation of PBIS.

6.2.2 Sustaining the Effort

Sustainability measures are necessary to ensure that PBIS implementation continues. This begins by clearly identifying the role and importance of PBIS implementation in the school or district. The role of PBIS should be articulated, reviewed, and updated regularly in district policy and regulations, and these policies and regulations should be distributed yearly to staff (OSEP National Technical Assistance Center on Positive Behavioral Interventions and Supports, 2018). Also, a three-year budget commitment to implementation also supports long-term sustainability (OSEP National Technical Assistance Center on PBIS, 2018). Findings indicate that a process for reviewing policies and procedures related to PBIS was not articulated, and funding was also not

clearly identified. Policies and procedures should also clearly reflect an evaluation process for implementation and how resources and activities will be reviewed and implemented each year.

6.2.3 Inclusion of Stakeholders

Stakeholder support and inclusion is an important component of PBIS implementation. Stakeholders can assist with setting goals and creating policy, sharing information and accomplishments with the community, and making PBIS a major goal of the school system (OSEP, 2018). The district implementation documents identify the inclusion of a Central Office Administrator and PaTTAN stakeholders in the implementation process. Student, family, and community involvement is not clearly articulated in the implementation documents. The District Strategic Plan (2016) articulates a strategic theme objective to "Ensure effective family and community partnerships in every school"; however, this is not articulated in any of the PBIS implementation documents. A recommendation would be to include a clearly articulated plan for including all stakeholders in the process of implementing PBIS.

6.3 Limitations of Study

There are a few limitations in this study that must be taken into consideration. First, this study is limited only to the population of students enrolled in six schools in one district. Therefore, there is no way to determine if these results are specific to these schools or to others in the district, nor is it possible to compare the results to like schools in other districts.

Also, PBIS had only been implemented for two years at the time of the study. Further examination of the implementation could allow for additional patterns to be observed, as well as the evaluation of long-term implementation over five years.

A final limitation of the study is the possible effect of researcher bias. At the time of the study, I was serving as an administrator in this district. As an educator who works with improving school culture, this research has provided me with additional learning in this area. It is important to note that experience can also bias a researcher, which makes it even more important to study multiple forms of data to gain multiple perspectives.

6.4 Recommendations for Future Study

This study relied on secondary data analysis. Interviews with stakeholders involved in PBIS implementation would provide more insight into the implementation process. The individuals could include PaTTAN trainers, district-level support teams, school-level support teams, and/or students. Interviewing stakeholders could fill in gaps and address issues limited by secondary data as well as provide qualitative data to inform the quantitative findings in this study.

This study also focused on one school from each of the district's school configurations: K-5, K-8, 6-8, 6-12, 9-12, and one school that specializes in special education student needs. However, the district implemented a Positive Behavior Intervention System at every school building in the district. One way to further this research would be to explore the overall impact of implementation at each school in the district. This would provide opportunities to compare and contrast schools based on grade band, size, and/or population.

This research also sought to understand the impact of PBIS on race, gender, special education status, and socioeconomic status. The study did not evaluate more complex combined subgroups, such as African-American males and females, low socioeconomic students, and/or students with IEPs. Such data would provide a different level of analysis on the effect of PBIS on students.

Overall, this study has the opportunity to expand in a variety of ways to further explore the impact of PBIS implementation on any type of school or district.

Appendix A Approval from District and University to Move Forward with Study

University of Pittsburgh
Institutional Review Board

Human Research Protection Office
3500 Fifth Avenue, Suite 106
Pittsburgh, PA 15213
Tel (412) 383-1480
www.hrpo.pitt.edu

NOT HUMAN RESEARCH

Date:	December 18, 2019
Review Type:	Initial Study
IRB:	STUDY19110170
PI:	Melissa Friez
Title:	Evaluation of PBIS Implementation in an Urban School District

The Institutional Review Board (IRB) determined that the proposed activity is not research involving human subjects as defined by DHHS and FDA regulations.

This determination applies only to the activities described in the IRB submission and does not apply should any changes be made. If changes are made and there are questions about whether these activities are research involving human in which the organization is engaged, please submit a new request to the IRB for a determination. You can create a modification by clicking **Create Modification / CR** within the study.

If you have any questions, please contact the University of Pittsburgh IRB Coordinator, Deane Quillen.

Please take a moment to complete our Satisfaction Survey as we appreciate your feedback.

Expect great things.

Pittsburgh Public Schools

September 5, 2019

Melissa R. Friez
1267 Parkview Blvd.
Pittsburgh, PA 15217

Dear Mrs. Friez,

Thank you for taking the extra step of providing a preliminary version of your dissertation project. I was heartened to see that this project is precisely what we spoke of earlier this year. I look forward to the district receiving the project and our IRB reviewing it. This project looks like something that could benefit the district in relation to our PBIS implementation.

Sincerely,

Theodore Dwyer, Ph.D.
Chief of Data, Research, Evaluation, and Assessment

Theodore Dwyer, Ph.D.
Chief of Data, Research, Evaluation and Assessment

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www.pghschools.org

Appendix B Teaching and Learning Conditions Survey

Double click the picture below for Panorama Staff Questions document

Panorama Staff Questions.pdf

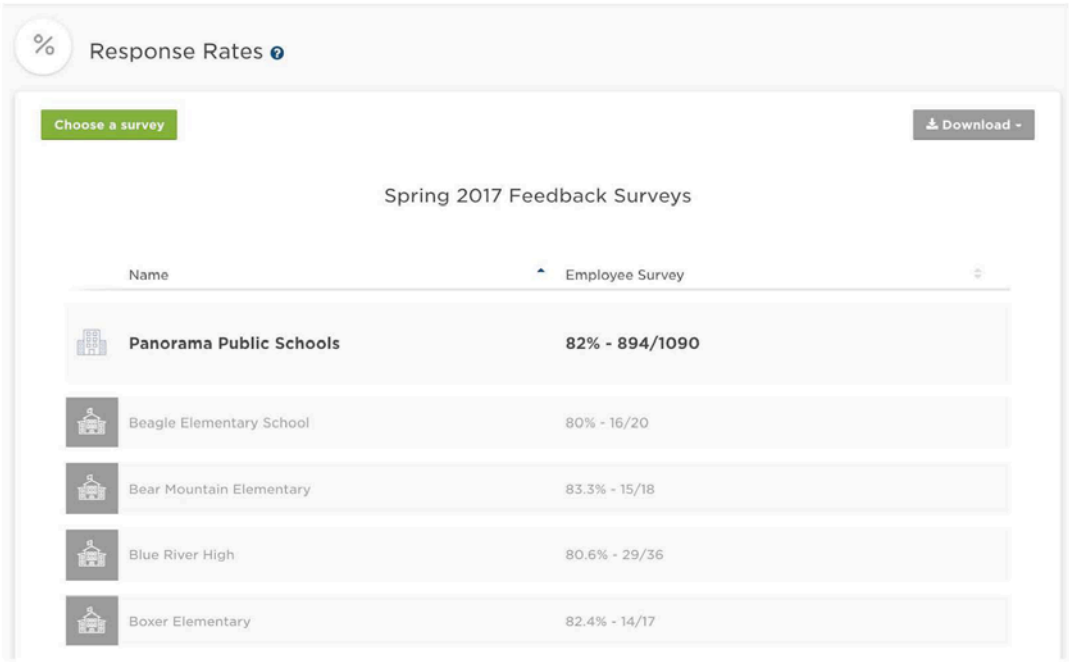
PANORAMA EDUCATION

STAFF SURVEYS | Option A and Option B

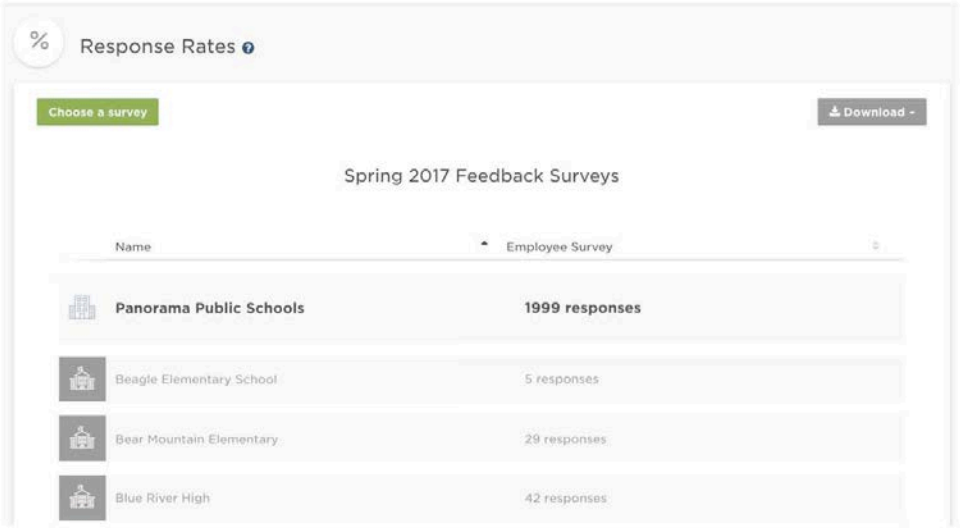
*Main differentiators	Option A	Option B
Response Rate Dashboard Access	• School administrators and any school leaders can have access to view/monitor the response rate dashboard for all schools in the district.	
Display of Response Rates (images below)*	• [50% - 10/20] • Real-time tracking	• [10 responses] • Real-time tracking
Ability to Download Response Rates	• Can download a list of response rate percentages (%) by school.	• Can download a list of total responses by school
Data File Requirement*	• **We would need a list of individual staff names linked to their specific school** (if there are any staff members at multiple schools, PPS would need to make a decision about if they should remain linked to 1 school only or respond to a survey per school they work at).	• **We would need a data file that lists out school name, school ID, headcount per school.**
Access Codes	• The list of staff names would purely be for gathering the headcount at each school and for our system to create random 10-digit access codes (where individuals are linked to the school, but it does not matter which code they use, because it will only link back to the school).	• Our system would create a list of random 10-digit access codes based on the school's headcount.
Mail-Merged Letters	• We would provide mail-merged access code letters that are not-specific to any individual staff member.	

Survey Anonymity	• *This survey would be absolutely anonymous.* We would provide the mail merged letters and these letters that contain the random access codes could be passed out in any order and it would not make a difference.	• This survey would be anonymous so access code letters can be handed out randomly.
Raw Exports for PPS	• At the end of the survey window, we would export all the survey responses with a unique response ID attached to a specific school, but NO names will be in this data file.	• Raw export file will associate responses to a unique response ID and a school. Since no names were provided, no names will be included in the data file.

Option A Visual



Option B Visual



Teaching and Learning Conditions Survey
Frequently Asked Questions

Who will take the survey?
All school-based licensed professionals, including teachers (special education teachers included), administrators, school social workers and counselors, school nurses, full-time substitutes (staff should have been at their school for at least 90 days), and paraprofessionals (including security aids). Early childhood and early intervention teachers will be taking a separate survey tailored to their specific needs and should not take the TLC Survey.

Why are there two different versions of the survey code letters?
In previous years, one survey link housed both the certified professional and paraprofessional versions of the TLC Survey. This year, each survey is housed under a different link. Therefore, each survey code is linked to a school AND a role group (certified professional or paraprofessional). The two different code letters help to minimize confusion and ensure that you take the correct survey version based on your role group.

How do I access the survey?
The survey is available online at www.pghschools.org/TLCSurvey. The survey can be accessed at any computer or smart device with internet access from April 29 to May 31.

Can I access the TLC Survey without signing in to Sharepoint?
Yes, to access the TLC Survey without signing into Sharepoint, go to https://surveys.panoramaed.com/pittsburgh/.

Why should I take the survey again?
Taking the survey each year allows us to gather current and accurate information, and build on the work happening in schools as a response to past survey data. Results from the Teaching and Learning Conditions Survey inform District and school-based decision-making and provide a more comprehensive picture of the teaching and learning environments in our schools. Your feedback is crucial to helping measure success, growth, and change at the school and District levels over time.

How are last year's results being used?
Last year, we had an educator response rate of 95%, which provided comprehensive and essential information about teaching and learning conditions in all of our schools. Not only are many school teams utilizing last year's survey results to reflect on and plan for improvement within 18 essential practices of the updated school improvement planning process, but we are taking the following steps at the District-level:

- Identifying Differentiated Support Needed by Schools: School-level survey results are used to recommend areas of focus, provide feedback on school improvement plans, and connect schools with resources to support their school improvement plan.
- Recommendations for Innovative Programs and Initiatives: Teacher perception data is used at the District-level to help inform priorities regarding programming in specific schools and throughout the District. As an example, educator feedback in the constructs of Time and Professional Development was an important data point in prioritizing the implementation of job-embedded professional learning as an additional initiative in the strategic plan.

Who can see the results of the survey?
Once the survey closes on May 31st, Panorama will begin to analyze data and create reports that will be available at the beginning of the school year so that staff can review their school-level data. Please note that the data is reported out on the District and school level, not on the individual level.

If I am an educator who works in more than one building, what do I do regarding the survey?
You should take the survey for the location where you spend the majority of your time. If you split your time equally between two buildings (50%-50%), you should take the survey for both buildings. If you

equally spend your time between more than two buildings then you may decide if you would like to take the survey at all of the locations that you spend your time or only at one of the locations. If you decide not to take the survey at one of your locations please inform the TLC Liaison so that he/she can ensure that there is an accurate headcount at that school.

If I am an adjunct teacher do I still take the survey?
Yes, all adjunct teachers should take the survey.

What is a survey access code and where can I get one?
Survey access codes are unique identifiers that allow individuals at a given school to log onto the survey and complete it. This access code is NOT linked to an individual, but is linked to your school. A unique access code is printed on each of the access code letters. The TLC Liaison in each school will distribute the code letters during a staff meeting once the survey opens.

How do I know that my survey responses were recorded?
To submit your survey responses, click the blue "submit" button at the end of the survey page. Once you click the "submit" button you will be taken to a thank you page.

What happens if I lose my access code?
If you lose your access code letter, contact the TLC Liaison for you school for an extra survey code.

What happens if I have to stop taking the survey part way through?
Survey answers are not recorded until you click the blue "submit" button at the end of the survey page. If you are not able to complete the survey in one sitting, you will have to restart the survey at a later time. However, you can still use your original access code and will not have to request a new one.

Who takes the "New Teacher" questions (#149-#187)?
Only teachers who have been a teacher at Pittsburgh Public Schools for less than 3 years should respond to the New Teacher questions. If you have been a teacher at Pittsburgh Public Schools for longer than 3 years or you are not a teacher, please scroll past these questions to the bottom of the survey page and click the blue "submit" button.

What if someone at my school has trouble accessing the survey?
In the event of difficulty accessing the survey, please contact the PPS Help Desk at 412-529-HELP or support@pghschools.org.

How can I be sure that the survey is anonymous?
The number of licensed educators at each school was calculated and used to specify the number of unique access codes necessary for each school. In order to further ensure anonymity, at least 50% participation is required for schools to receive school-level data. If fewer than five paraprofessionals complete the survey in your building, then school-level paraprofessional results are not shared; however, this data is used in District-wide results.

How can I tell if my school is making progress with completing the survey?
Participation rates are updated daily and available at www.pghschools.org/TLCSurvey under the link "Participation Rate".

Why does the TLC Survey look different this year compared to previous years?
The New Teacher Center, our previous TLC Survey partner, has discontinued their product line which includes support of our TLC Survey. After careful consideration, Pittsburgh Public Schools and the Pittsburgh Federation of Teachers has chosen to partner with Panorama Education. The platform will look different, but the experience of survey takers will be very similar.

Where do I go if I have a TLC Survey question that was not answered in the FAQs?
You should begin by asking your question to your school's TLC Liaison. If they are unable to answer your question, please submit your question to support@pghschools.org with "TLC Survey" noted in the subject line.

Appendix C Tiered Fidelity Inventory Survey and Self-Assessment Survey

Table 18. Tiered Fidelity Inventory Survey Questions

Question Title	Question
1.1 Team Composition	Tier I team includes a Tier I systems coordinator, a school administrator, a family member, and individuals able to provide (a) applied behavioral expertise, (b) coaching expertise, (c) knowledge of student academic and behavior patterns, (d) knowledge about the operations of the school across grade levels and programs and for high schools, (e) student representation.
1.2 Team Operating Procedures	Tier I team meets at least monthly and has (a) regular meeting format/agenda, (b) minutes, (c) defined meeting roles, and (d) a current action plan.
1.3 Behavioral Expectations	School has five or fewer positively stated behavioral expectations and examples by setting/location for student and staff behaviors (i.e., school teaching matrix) defined and in place.
1.4 Teaching Expectations	Expected academic and social behaviors are taught directly to all students in classrooms and across other campus settings/locations.
1.5 Problem Behavior Definitions	School has clear definitions for behaviors that interfere with academic and social success and a clear policy/procedure (e.g., flowchart) for addressing office-managed versus staff-managed problems.
1.6 Discipline Policies	School policies and procedures describe and emphasize proactive, instructive, and/or restorative approaches to student behavior that are implemented consistently.
1.7 Professional Development	A written process is used for orienting all faculty/staff on 4 core Tier I SWPBIS practices: (a) teaching school-wide expectations, (b) acknowledging appropriate behavior, (c) correcting errors, and (d)requesting assistance.

1.8 Classroom Procedures	Tier I features (school-wide expectations, routines, acknowledgements, in-class continuum of consequences) are implemented within classrooms and consistent with school-wide systems.
1.9 Feedback and Acknowledgement	A formal system (i.e., written set of procedures for specific behavior feedback that is [a] linked to school-wide expectations and [b] used across settings and within classrooms) is in place and used by at least 90% of a sample of staff and received by at least 50% of a sample of students.
1.10 Faculty Involvement	Faculty are shown school-wide data regularly and provide input on universal foundations (e.g., expectations, acknowledgements, definitions, consequences) at least every 12 months.
1.11 Student/Family/Community Involvement	Stakeholders (students, families, and community members) provide input on universal foundations (e.g., expectations, consequences, acknowledgements) at least every 12 months
1.12 Discipline Data	Tier I team has instantaneous access to graphed reports summarizing discipline data organized by the frequency of problem behavior events by behavior, location, time of day, and by individual student.
1.13 Data-based Decision	Making: Tier I team reviews and uses discipline data and academic outcome data (e.g., curriculum-based measures, state tests) at least monthly for decision-making.
1.14 Fidelity Data	Tier I team reviews and uses SWPBIS fidelity (e.g., SET, BoQ, TIC, SAS, Tiered Fidelity Inventory) data at least annually.
1.15 Annual Evaluation	Tier I team documents fidelity and effectiveness (including on academic outcomes) of Tier I practices at least annually (including year by-year comparisons) that are shared with stakeholders (staff, families, community, district) in a usable format.

Table 19. Self-Assessment Survey Questions

School-wide Systems
School-wide is defined as involving all students, all staff, & all settings.
1. A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.
2. Expected student behaviors are taught directly.
3. Expected student behaviors are rewarded regularly.
4. Problem behaviors (failure to meet expected student behaviors) are defined clearly.
5. Consequences for problem behaviors are defined clearly.
6. Distinctions between office v. classroom managed problem behaviors are clear.
7. Options exist to allow classroom instruction to continue when problem behavior occurs.
8.Procedures are in place to address emergency/dangerous situations.
9. A team exists for behavior support planning & problem solving.
10. School administrator is an active participant on the behavior support team.
11. Data on problem behavior patterns are collected and summarized within an on-going system.
12. Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).
13. School has formal strategies for informing families about expected student behaviors at school.
14. Booster training activities for students are developed, modified, & conducted based on school data.
15. School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.
16. All staff are involved directly and/or indirectly in school-wide interventions.
17. The school team has access to on-going training and support from district personnel.
18. The school is required by the district to report on the social climate, discipline level or student behavior at least annually.

Non-Classroom Settings
Non-classroom settings are defined as particular times or places where supervision is emphasized (e.g., hallways, cafeteria, playground, bus).
1. School-wide expected student behaviors apply to non-classroom settings.
2. School-wide expected student behaviors are taught in non-classroom settings.
3. Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.
4. Rewards exist for meeting expected student behaviors in non-classroom settings.
5. Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.
6. Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.
7. Staff receives regular opportunities for developing and improving active supervision skills.
8. Status of student behavior and management practices are evaluated quarterly from data.
9. All staff are involved directly or indirectly in management of non-classroom settings.

Classroom Settings
1. Expected student behavior & routines in classrooms are stated positively & defined clearly.
2. Problem behaviors are defined clearly.
3. Expected student behavior & routines in classrooms are taught directly.
4. Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).
5. Problem behaviors receive consistent consequences.
6. Procedures for expected & problem behaviors are consistent with school-wide procedures.
7. Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.
8. Instruction & curriculum materials are matched to student ability (math, reading, language).
9. Students experience high rates of academic success ($\geq$ 75% correct).
10. Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).
11. Transitions between instructional & non-instructional activities are efficient & orderly.

Individual Student Systems
Individual student systems are defined as specific supports for students who engage in chronic problem behaviors (1%-7% of enrollment)
1. Assessments are conducted regularly to identify students with chronic problem behaviors.
2. A simple process exists for teachers to request assistance.
3. A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.
4. Behavioral support team includes an individual skilled at conducting functional behavioral assessment.
5. Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).
6. Significant family &/or community members are involved when appropriate & possible.
7. School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.
8. Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.

Appendix D Data from Adequacy of Resources

Table 20. Tiered-Fidelity Inventory Adequacy of Resources Data Findings by School Studied

K-5 TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	2	1	-1
1.7 Professional Development	1	2	+1
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	1	2	+1
1.12 Discipline Data	1	1	0
1.14 Fidelity Data	0	2	+2
1.15 Annual Evaluation	1	1	0

K-8 TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	2	2	0
1.7 Professional Development	1	2	+1
1.9 Feedback and Acknowledgement	1	2	+1
1.10 Faculty Involvement	1	2	+1
1.12 Discipline Data	0	2	+2
1.14 Fidelity Data	1	2	+1
1.15 Annual Evaluation	0	1	+1

6-8 TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	1	1	0
1.7 Professional Development	0	1	+1
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	0	0	0
1.12 Discipline Data	0	0	0
1.14 Fidelity Data	1	1	0
1.15 Annual Evaluation	0	0	0

6-12 TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	N/A	2	N/A
1.7 Professional Development	N/A	2	N/A
1.9 Feedback and Acknowledgement	N/A	1	N/A
1.10 Faculty Involvement	N/A	2	N/A
1.12 Discipline Data	N/A	2	N/A
1.14 Fidelity Data	N/A	2	N/A
1.15 Annual Evaluation	N/A	2	N/A

9-12 TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	2	1	-1
1.7 Professional Development	1	2	+1
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	1	2	+1
1.12 Discipline Data	1	1	0
1.14 Fidelity Data	1	2	+1
1.15 Annual Evaluation	1	1	0

Special School TFI Resources Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.1 Team Composition	1	1	0
1.7 Professional Development	2	2	0
1.9 Feedback and Acknowledgement	1	2	+1
1.10 Faculty Involvement	1	1	0
1.12 Discipline Data	1	1	0
1.14 Fidelity Data	2	2	0
1.15 Annual Evaluation	1	1	0

Table 21. Self-Assessment Survey Adequacy of Resources Data Findings by School Studied

K-5 SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	81%	87%	+6%
School administrator is an active participant on the behavior support team.	84%	88%	+4%

K-8 SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	73%	80%	+7%
School administrator is an active participant on the behavior support team.	84%	94%	+10%

6-8 SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	66%	71%	+5%
School administrator is an active participant on the behavior support team.	85%	76%	-9%

6-12 SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	80%	83%	+3%
School administrator is an active participant on the behavior support team.	73%	100%	+27%

9-12 SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	56%	85%	+29%
School administrator is an active participant on the behavior support team.	83%	93%	+10%

Special School SAS Resource Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
A team exists for behavior support planning & problem solving.	70%	67%	-3%
School administrator is an active participant on the behavior support team.	89%	88%	-1%

Appendix E Data from Adequacy of Activities

Table 22. Tiered-Fidelity Inventory Adequacy of Activities Data Findings by School Studied

K-5 TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.2 Team Operating Procedures	2	1	-1
1.3 Behavioral Expectations	2	2	0
1.4 Teaching Expectations	2	2	0
1.5 Problem Behavior Definition	2	1	-1
1.6 Discipline Policies	2	2	0
1.7 Professional Development	1	2	+1
1.8 Classroom Procedures	2	2	0
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	1	2	+1
1.11 Student/Family/Community Involvement	2	2	0
1.13 Data-based Decision	2	1	-1
1.14 Fidelity Data	0	2	+2
1.15 Annual Evaluation	1	1	0

K-8 TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.2 Team Operating Procedures	2	2	0
1.3 Behavioral Expectations	1	2	+1
1.4 Teaching Expectations	1	2	+1
1.5 Problem Behavior Definition	1	2	+1
1.6 Discipline Policies	1	2	+1
1.7 Professional Development	1	2	+1
1.8 Classroom Procedures	1	1	0
1.9 Feedback and Acknowledgement	1	2	+1
1.10 Faculty Involvement	1	2	+1
1.11 Student/Family/Community Involvement	1	1	0
1.13 Data-based Decision	1	1	0
1.14 Fidelity Data	1	2	+1
1.15 Annual Evaluation	0	1	+1

6-8 TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score

1.2 Team Operating Procedures	1	1	0
1.3 Behavioral Expectations	2	2	0
1.4 Teaching Expectations	1	1	0
1.5 Problem Behavior Definition	0	1	+1
1.6 Discipline Policies	0	0	0
1.7 Professional Development	0	1	+1
1.8 Classroom Procedures	1	1	0
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	0	0	0
1.11 Student/Family/Community Involvement	0	0	0
1.13 Data-based Decision	1	0	-1
1.14 Fidelity Data	1	1	0
1.15 Annual Evaluation	0	0	0

6-12 TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.2 Team Operating Procedures	N/A	2	N/A
1.3 Behavioral Expectations	N/A	2	N/A
1.4 Teaching Expectations	N/A	1	N/A
1.5 Problem Behavior Definition	N/A	2	N/A
1.6 Discipline Policies	N/A	2	N/A
1.7 Professional Development	N/A	2	N/A
1.8 Classroom Procedures	N/A	2	N/A
1.9 Feedback and Acknowledgement	N/A	1	N/A
1.10 Faculty Involvement	N/A	2	N/A
1.11 Student/Family/Community Involvement	N/A	1	N/A
1.13 Data-based Decision	N/A	2	N/A
1.14 Fidelity Data	N/A	2	N/A
1.15 Annual Evaluation	N/A	2	N/A

9-12 TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.2 Team Operating Procedures	1	1	0
1.3 Behavioral Expectations	1	2	+1

1.4 Teaching Expectations	1	2	+1
1.5 Problem Behavior Definition	1	2	+1
1.6 Discipline Policies	1	2	+1
1.7 Professional Development	1	2	+1
1.8 Classroom Procedures	1	2	+1
1.9 Feedback and Acknowledgement	1	1	0
1.10 Faculty Involvement	1	2	+1
1.11 Student/Family/Community Involvement	1	2	+1
1.13 Data-based Decision	1	1	0
1.14 Fidelity Data	1	2	+1
1.15 Annual Evaluation	1	1	0

Special School TFI Activities Questions	2017-2018 Score	2018-2019 Score	Change in Score
1.2 Team Operating Procedures	2	2	0
1.3 Behavioral Expectations	2	2	0
1.4 Teaching Expectations	1	1	0
1.5 Problem Behavior Definition	1	1	0
1.6 Discipline Policies	1	1	0
1.7 Professional Development	2	2	0
1.8 Classroom Procedures	1	1	0
1.9 Feedback and Acknowledgement	1	2	+1
1.10 Faculty Involvement	1	1	0
1.11 Student/Family/Community Involvement	1	1	0
1.13 Data-based Decision	1	1	0
1.14 Fidelity Data	2	2	0
1.15 Annual Evaluation	1	1	0

Table 23. Self-Assessment Survey Adequacy of Activities Data Findings by School Studied[1]

	Question No.	K-5 SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	100%	90%	-10%
	2	Expected student behaviors are taught directly.	93%	83%	-10%
	3	Expected student behaviors are rewarded regularly.	86%	67%	-9%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	71%	72%	+1%
	5	Consequences for problem behaviors are defined clearly.	63%	57%	-6%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	70%	56%	-14%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	50%	56%	+6%
	8	Procedures are in place to address emergency/dangerous situations.	70%	72%	+2%
	9	A team exists for behavior support planning & problem solving.	81%	87%	+6%
	10	School administrator is an active participant on the behavior support team.	84%	88%	+4%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	67%	75%	+8%

[1] Please note that the change of in place of status cells that are shaded are increases of 30% or above or change of 15% or below.

	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	69%	57%	-12%
	13	School has formal strategies for informing families about expected student behaviors at school.	77%	77%	0%
	14	Booster training activities for students are developed, modified, & conducted based on school data.	59%	75%	-16%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	78%	82%	+4%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	74%	85%	+11%
	17	The school team has access to on-going training and support from district personnel.	86%	75%	-11%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	94%	100%	+6%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	93%	87%	-6%
	2	School-wide expected student behaviors are taught in non-classroom settings.	85%	73%	-12%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	88%	97%	+9%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	88%	85%	-3%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	85%	91%	+6%

	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	75%	82%	+7%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	67%	76%	+9%
	8	Status of student behavior and management practices are evaluated quarterly from data.	93%	78%	-15%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	78%	97%	+19%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	96%	100%	+4%
	2	Problem behaviors are defined clearly.	92%	82%	-10%
	3	Expected student behavior & routines in classrooms are taught directly.	96%	96%	0%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	86%	79%	-7%
	5	Problem behaviors receive consistent consequences.	68%	63%	-5%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	87%	87%	0%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	73%	71%	-2%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	62%	78%	+16%
	9	Students experience high rates of academic success (≥ 75% correct).	74%	68%	-6%

	10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	85%	85%	0%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	86%	89%	+3%
Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	74%	58%	-16%
	2	A simple process exists for teachers to request assistance.	81%	75%	-6%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	73%	67%	-6%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	82%	75%	-7%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	92%	82%	-10%
	6	Significant family &/or community members are involved when appropriate & possible.	68%	70%	+2%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	65%	54%	-11%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	74%	86%	+12%

	Question No.	K-8 SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	89%	97%	+8%
	2	Expected student behaviors are taught directly.	64%	77%	+13%
	3	Expected student behaviors are rewarded regularly.	84%	83%	-1%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	51%	70%	+19%
	5	Consequences for problem behaviors are defined clearly.	35%	46%	+11%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	46%	76%	+30%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	33%	49%	+16%
	8	Procedures are in place to address emergency/dangerous situations.	59%	61%	+2%
	9	A team exists for behavior support planning & problem solving.	73%	80%	+7%
	10	School administrator is an active participant on the behavior support team.	84%	94%	+10%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	49%	52%	+3%
	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	32%	50%	+18%
	13	School has formal strategies for informing families about expected student behaviors at school.	43%	61%	+18%

	14	Booster training activities for students are developed, modified, & conducted based on school data.	25%	38%	+13%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	69%	79%	+10%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	50%	81%	+31%
	17	The school team has access to on-going training and support from district personnel.	59%	60%	+1%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	100%	90%	-10%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	83%	94%	+11%
	2	School-wide expected student behaviors are taught in non-classroom settings.	68%	77%	+9%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	66%	86%	+20%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	59%	94%	+35%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	44%	71%	+27%
	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	58%	66%	+8%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	42%	67%	+25%

	8	Status of student behavior and management practices are evaluated quarterly from data.	38%	59%	+21%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	36%	81%	+45%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	83%	97%	+14%
	2	Problem behaviors are defined clearly.	54%	76%	+22%
	3	Expected student behavior & routines in classrooms are taught directly.	77%	85%	+8%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	76%	76%	0%
	5	Problem behaviors receive consistent consequences.	50%	48%	-2%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	56%	64%	+8%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	36%	63%	+27%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	39%	62%	+23%
	9	Students experience high rates of academic success ($\geq$ 75% correct).	19%	31%	+12%
	10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	53%	62%	+9%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	48%	50%	+2%

Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	42%	48%	+6%
	2	A simple process exists for teachers to request assistance.	48%	70%	+22%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	38%	59%	+21%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	44%	65%	+21%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	35%	54%	+19%
	6	Significant family &/or community members are involved when appropriate & possible.	36%	41%	+5%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	9%	50%	+41%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	21%	41%	+20%

	Question No.	6-8 SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	89%	84%	-5%
	2	Expected student behaviors are taught directly.	69%	68%	-1%
	3	Expected student behaviors are rewarded regularly.	69%	53%	-16%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	50%	37%	-13%
	5	Consequences for problem behaviors are defined clearly.	44%	33%	-11%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	48%	39%	-9%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	47%	16%	-31%
	8	Procedures are in place to address emergency/dangerous situations.	56%	41%	-15%
	9	A team exists for behavior support planning & problem solving.	66%	71%	+5%
	10	School administrator is an active participant on the behavior support team.	85%	76%	-9%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	50%	28%	-22%
	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	55%	25%	-30%
	13	School has formal strategies for informing families about expected student behaviors at school.	58%	28%	-30%

	14	Booster training activities for students are developed, modified, & conducted based on school data.	50%	33%	-17%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	64%	38%	-26%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	60%	50%	-10%
	17	The school team has access to on-going training and support from district personnel.	54%	50%	-4%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	86%	69%	-17%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	77%	73%	-4%
	2	School-wide expected student behaviors are taught in non-classroom settings.	60%	80%	+20%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	57%	67%	+10%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	71%	67%	-4%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	61%	40%	-21%
	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	70%	47%	-23%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	52%	33%	-19%

	8	Status of student behavior and management practices are evaluated quarterly from data.	48%	42%	-6%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	64%	38%	-26%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	69%	78%	+9%
	2	Problem behaviors are defined clearly.	56%	44%	-12%
	3	Expected student behavior & routines in classrooms are taught directly.	64%	65%	+1%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	62%	47%	-15%
	5	Problem behaviors receive consistent consequences.	40%	22%	-18%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	50%	33%	-17%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	53%	29%	-24%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	47%	35%	-12%
	9	Students experience high rates of academic success ($\geq$ 75% correct).	45%	24%	-21%
	10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	54%	53%	-1%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	50%	40%	-10%

Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	44%	31%	-13%
	2	A simple process exists for teachers to request assistance.	45%	35%	-10%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	32%	13%	-19%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	38%	15%	-23%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	35%	7%	-28%
	6	Significant family &/or community members are involved when appropriate & possible.	38%	25%	-13%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	34%	0%	-34%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	41%	19%	-32%

	Question No.	6-12 SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	55%	100%	-45%
	2	Expected student behaviors are taught directly.	36%	86%	+50%
	3	Expected student behaviors are rewarded regularly.	9%	33%	+24%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	45%	67%	+22%
	5	Consequences for problem behaviors are defined clearly.	27%	71%	+44%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	50%	40%	-10%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	30%	17%	-13%
	8	Procedures are in place to address emergency/dangerous situations.	64%	80%	+16%
	9	A team exists for behavior support planning & problem solving.	80%	83%	+3%
	10	School administrator is an active participant on the behavior support team.	73%	100%	+27%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	63%	67%	+4%
	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	82%	80%	-2%
	13	School has formal strategies for informing families about expected student behaviors at school.	38%	50%	+12%

	14	Booster training activities for students are developed, modified, & conducted based on school data.	38%	25%	-13%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	40%	0%	-40%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	50%	60%	+10%
	17	The school team has access to on-going training and support from district personnel.	38%	50%	+12%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	100%	100%	0%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	45%	67%	+12%
	2	School-wide expected student behaviors are taught in non-classroom settings.	30%	75%	+45%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	60%	80%	+20%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	17%	33%	+16%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	38%	80%	+42%
	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	71%	75%	+4%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	22%	40%	+18%

	8	Status of student behavior and management practices are evaluated quarterly from data.	83%	50%	-33%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	44%	75%	+31%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	73%	100%	+27%
	2	Problem behaviors are defined clearly.	55%	67%	+12%
	3	Expected student behavior & routines in classrooms are taught directly.	70%	100%	+30%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	20%	100%	+80%
	5	Problem behaviors receive consistent consequences.	43%	67%	+24%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	67%	75%	+8%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	40%	60%	+20%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	56%	33%	-23%
	9	Students experience high rates of academic success (≥ 75% correct).	56%	100%	+44%
		Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	33%	60%	+27%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	75%	60%	-15%

Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	43%	75%	+32%
	2	A simple process exists for teachers to request assistance.	44%	80%	+36%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	50%	50%	0%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	83%	100%	+17%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	50%	100%	+50%
	6	Significant family &/or community members are involved when appropriate & possible.	67%	67%	0%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	20%	50%	+30%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	29%	100%	+71%

	Question No.	9-12 SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	80%	98%	+18%
	2	Expected student behaviors are taught directly.	54%	91%	+37%
	3	Expected student behaviors are rewarded regularly.	38%	48%	+10%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	47%	67%	+20%
	5	Consequences for problem behaviors are defined clearly.	30%	53%	+23%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	48%	72%	-24%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	38%	64%	+26%
	8	Procedures are in place to address emergency/dangerous situations.	82%	93%	+11%
	9	A team exists for behavior support planning & problem solving.	56%	85%	+29%
	10	School administrator is an active participant on the behavior support team.	83%	93%	+10%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	47%	85%	+38%
	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	49%	64%	+15%
	13	School has formal strategies for informing families about expected student behaviors at school.	66%	78%	+12%

	14	Booster training activities for students are developed, modified, & conducted based on school data.	30%	61%	+29%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	44%	63%	+19%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	31%	73%	+42%
	17	The school team has access to on-going training and support from district personnel.	44%	78%	+34%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	65%	90%	+35%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	47%	83%	+36%
	2	School-wide expected student behaviors are taught in non-classroom settings.	28%	67%	+39%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	40%	66%	+26%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	26%	41%	+15%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	42%	65%	+23%
	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	49%	75%	+26%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	32%	51%	+19%

	8	Status of student behavior and management practices are evaluated quarterly from data.	43%	67%	+24%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	41%	67%	+26%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	73%	89%	+16%
	2	Problem behaviors are defined clearly.	51%	84%	+33%
	3	Expected student behavior & routines in classrooms are taught directly.	54%	88%	+34%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	41%	44%	+3%
	5	Problem behaviors receive consistent consequences.	33%	47%	+9%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	42%	59%	+17%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	41%	68%	+27%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	41%	53%	+12%
	9	Students experience high rates of academic success ($\geq$ 75% correct).	29%	32%	+3%
	10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	41%	81%	+40%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	38%	56%	+18%

Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	24%	50%	+26%
	2	A simple process exists for teachers to request assistance.	49%	77%	+28%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	47%	67%	+20%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	50%	83%	+33%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	32%	67%	+35%
	6	Significant family &/or community members are involved when appropriate & possible.	29%	48%	+19%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	17%	42%	+25%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	33%	53%	+20%

	Question No.	Special School SAS Activities Questions	In Place Status 2017-2018	In Place Status 2018-2019	Change of In Place Status
Systems-Wide Systems	1	A small number (e.g. 3-5) of positively & clearly stated student expectations or rules are defined.	86%	68%	-18%
	2	Expected student behaviors are taught directly.	64%	58%	-6%
	3	Expected student behaviors are rewarded regularly.	78%	80%	+2%
	4	Problem behaviors (failure to meet expected student behaviors) are defined clearly.	50%	52%	+2%
	5	Consequences for problem behaviors are defined clearly.	7%	24%	+17%
	6	Distinctions between office v. classroom managed problem behaviors are clear.	42%	26%	-16%
	7	Options exist to allow classroom instruction to continue when problem behavior occurs.	48%	55%	+7%
	8	Procedures are in place to address emergency/dangerous situations.	52%	67%	+15%
	9	A team exists for behavior support planning & problem solving.	70%	67%	-3%
	10	School administrator is an active participant on the behavior support team.	89%	88%	-1%
	11	Data on problem behavior patterns are collected and summarized within an on-going system.	75%	71%	-4%
	12	Patterns of student problem behavior are reported to teams and faculty for active decision-making on a regular basis (e.g. monthly).	70%	75%	+5%
	13	School has formal strategies for informing families about expected student behaviors at school.	38%	58%	+20%

	14	Booster training activities for students are developed, modified, & conducted based on school data.	11%	47%	+36%
	15	School-wide behavior support team has a budget for (a) teaching students, (b) on-going rewards, and (c) annual staff planning.	81%	90%	+9%
	16	All staff are involved directly and/or indirectly in school-wide interventions.	74%	68%	-6%
	17	The school team has access to on-going training and support from district personnel.	64%	48%	-16%
	18	The school is required by the district to report on the social climate, discipline level or student behavior at least annually.	93%	80%	-7%
Non-Classroom Settings	1	School-wide expected student behaviors apply to non-classroom settings.	50%	71%	+21%
	2	School-wide expected student behaviors are taught in non-classroom settings.	46%	57%	+11%
	3	Supervisors actively supervise (move, scan, & interact) students in non-classroom settings.	58%	60%	+2%
	4	Rewards exist for meeting expected student behaviors in non-classroom settings.	74%	70%	-4%
	5	Physical/architectural features are modified to limit (a) unsupervised settings, (b) unclear traffic patterns, and (c) inappropriate access to & exit from school grounds.	56%	50%	-6%
	6	Scheduling of student movement ensures appropriate numbers of students in non-classroom spaces.	75%	67%	-8%
	7	Staff receives regular opportunities for developing and improving active supervision skills.	65%	43%	-22%

	8	Status of student behavior and management practices are evaluated quarterly from data.	82%	84%	+2%
	9	All staff are involved directly or indirectly in management of non-classroom settings.	70%	73%	+3%
Classroom Settings	1	Expected student behavior & routines in classrooms are stated positively & defined clearly.	86%	70%	-16%
	2	Problem behaviors are defined clearly.	54%	61%	+7%
	3	Expected student behavior & routines in classrooms are taught directly.	77%	68%	-9%
	4	Expected student behaviors are acknowledged regularly (positively reinforced) (>4 positives to 1 negative).	57%	74%	+17%
	5	Problem behaviors receive consistent consequences.	16%	22%	+6%
	6	Procedures for expected & problem behaviors are consistent with school-wide procedures.	37%	48%	+11%
	7	Classroom-based options exist to allow classroom instruction to continue when problem behavior occurs.	52%	45%	-7%
	8	Instruction & curriculum materials are matched to student ability (math, reading, language).	63%	64%	+1%
	9	Students experience high rates of academic success ($\geq$ 75% correct).	21%	22%	+1%
	10	Teachers have regular opportunities for access to assistance & recommendations (observation, instruction, & coaching).	40%	75%	+35%
	11	Transitions between instructional & non-instructional activities are efficient & orderly.	18%	27%	+9%

Individual Student Systems	1	Assessments are conducted regularly to identify students with chronic problem behaviors.	50%	68%	+18%
	2	A simple process exists for teachers to request assistance.	46%	79%	+33%
	3	A behavior support team responds promptly (within 2 working days) to students who present chronic problem behaviors.	48%	63%	+15%
	4	Behavioral support team includes an individual skilled at conducting functional behavioral assessment.	73%	76%	+3%
	5	Local resources are used to conduct functional assessment-based behavior support planning (~10 hrs/week/student).	47%	57%	+10%
	6	Significant family &/or community members are involved when appropriate & possible.	17%	41%	+24%
	7	School includes formal opportunities for families to receive training on behavioral support/positive parenting strategies.	23%	31%	+8%
	8	Behavior is monitored & feedback provided regularly to the behavior support team & relevant staff.	48%	76%	+28%

Appendix F

Data from Expected Outputs/Outcomes

Table 24. 3-Year Trend of Overall MDEs by School Studied

School Studied	Number of MDE's 2016-2017	Number of MDE's 2017-2018	Number of MDE's 2018-2019	Change in MDE's
K-5	12	20	26	+116.7%
K-8	72	33	32	-55.5%
6-8	18	13	18	0.0%
6-12	8	11	22	+175.0%
9-12	97	28	19	-80.4%
Special	21	10	5	-76.2%

Table 25. 3-Year Trend of MDEs by Gender in Schools Studied

School Type	Number of MDE's 2016-2017	Number of MDE's 2017-2018	Number of MDE's 2018-2019	Change in MDE's
K-5				
Female	8	7	8	0.0%
Male	13	13	18	+38.5%
K-8				
Female	30	14	16	-46.7%
Male	42	19	16	-61.9%
6-8				
Female	10	3	2	-80.0%
Male	8	10	16	+100.0%
6-12				
Female	4	8	12	+200.0%
Male	4	3	10	+150.0%
9-12				
Female	55	10	7	-87.3%
Male	42	18	12	-71.4%
Special				
Female	5	3	1	-80.0%
Male	16	7	4	-75.0%

Table 26. 3-Year Trend of MDEs by Race in Schools Studied

School Type	Number of MDE's 2016-2017	Number of MDE's 2017-2018	Number of MDE's 2018-2019	Change in MDE's
K-5				
African-American	3	1	6	+100%
White	12	9	11	-8.3%
Other	6	10	9	+50.0%
K-8				
African-American	50	20	19	-62.0%
White	14	6	6	-57.1%
Other	8	7	7	-12.5%
6-8				
African-American	11	7	9	-18.2%
White	6	5	8	+33.3%
Other	1	1	1	0.0%
6-12				
African-American	3	4	9	+200.0%
White	4	7	11	+175.0%
Other	1	0	2	+100.0%
9-12				
African= American	45	18	14	+68.9%
White	40	3	4	-90.0%
Other	12	7	1	-91.7%
Special				
African-American	18	9	3	-83.3%
White	2	1	2	0.0%
Other	1	0	0	+100.0%

Table 27. 3-Year Trend of MDE's by Special Education Status in Schools Studied

School Type	Number of MDE's 2016-2017	Number of MDE's 2017-2018	Number of MDE's 2018-2019	Change in MDE's
K-5				
IEP	2	3	7	+250.0%
Gifted	0	0	0	0.0%
Not IEP Gifted	19	17	19	0.0%
K-8				
IEP	5	10	15	+200.0%
Gifted	0	0	0	0.0%
Not IEP Gifted	67	23	17	-74.6%
6-8				
IEP	15	9	14	-6.7%
Gifted	0	0	0	0.0%
Not IEP Gifted	3	4	4	+33.3%
6-12				
IEP	1	2	1	0.0%
Gifted	0	0	0	0.0%
Not IEP Gifted	7	9	21	+200.0%
9-12				
IEP	37	10	12	-67.6%
Gifted	0	0	0	0.0%
Not IEP Gifted	60	18	7	-88.3%
Special				
IEP	21	10	5	-76.2%

Table 28. 3-Year Trend of Overall Suspensions by Schools Studied

School Studied	2016 - 2017	2017 - 2018	2018 - 2019	Change in Suspensions
K-5	2	1	2	0%
K-8	147	54	69	-53.06%
6-8	58	53	44	-24.13%
6-12	58	45	46	-20.69%
9-12	437	402	394	-9.84%
Special	310	80	112	-63.87%

Table 29. 3-Year Trend of Suspensions by Gender in Schools Studied

School Type	2016 - 2017	2017 - 2018	2018 - 2019	Change in Suspensions
K-5				
Female	1			-100.0%
Male	1	1	2	+100.0%
Total	**2**	**1**	**2**	0%
K-8				
Female	51	24	25	-51.0%
Male	96	30	44	-54.2%
Total	**147**	**54**	**69**	-53.1%
6-8				
Female	29	21	25	-13.8%
Male	29	32	19	-34.5%
Total	**58**	**53**	**44**	-24.1%
6-12				
Female	34	22	28	-17.7%
Male	24	23	18	-25.0%
Total	**58**	**45**	**46**	-20.7%
9-12				
Female	206	215	189	-8.3%
Male	231	187	205	-11.3%
Total	**437**	**402**	**394**	-9.8%
Special				
Female	75	12	32	-57.3%
Male	235	68	80	-66.0%
Total	**310**	**80**	**112**	-63.9%

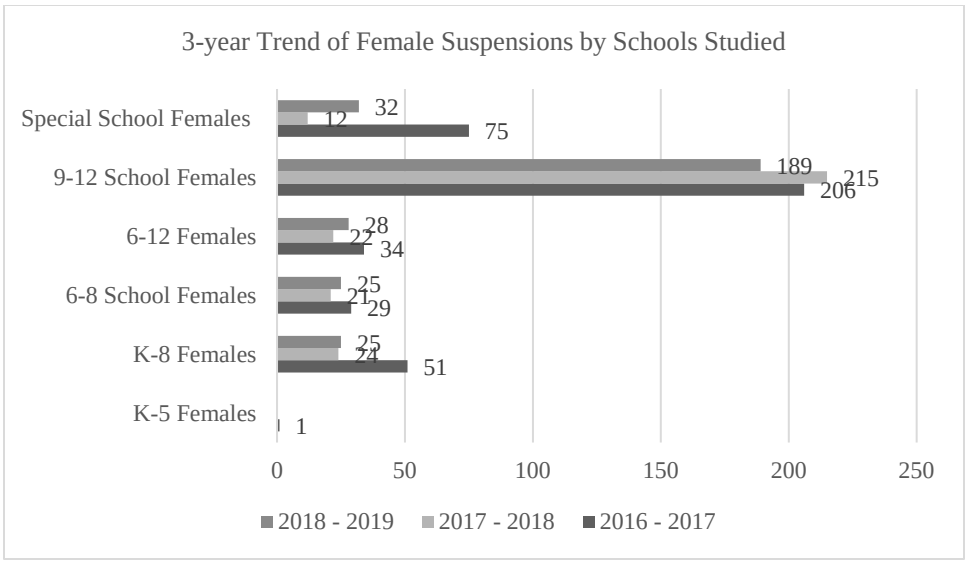


Figure 5. 3-year Trend of Female Suspensions by Schools Studied

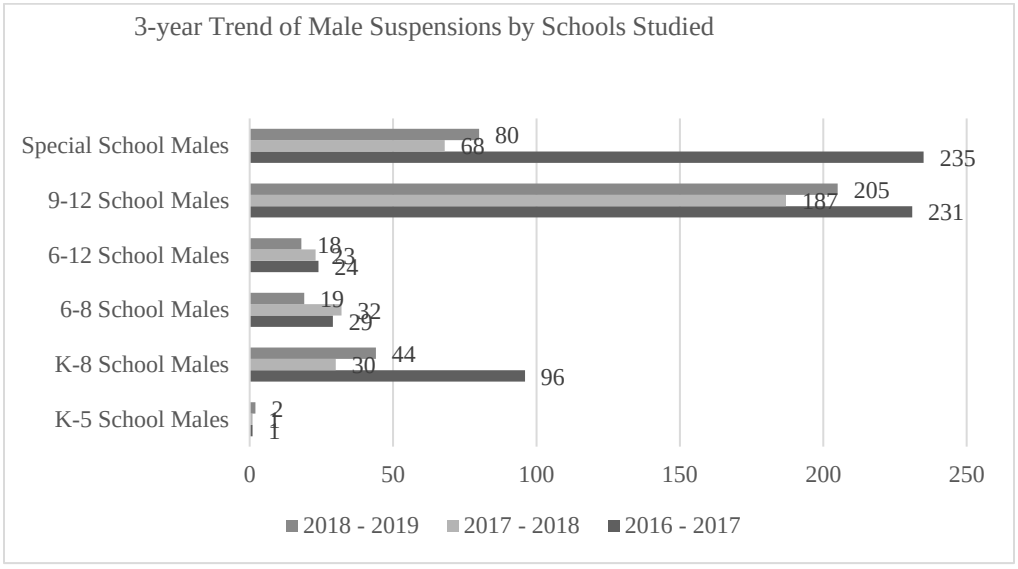


Figure 6. 3-year Trend of Male Suspensions by Schools Studied

Table 30. 3-Year Trend of Suspensions by Race in Schools Studied

School Type	2016 - 2017	2017 - 2018	2018 - 2019	Change in Suspensions
K-5				
African-American	1	0	1	+0%
White	1	1	1	+0%
Total	2	1	2	+0%
K-8				
African-American	125	47	55	-56.0%
Multiracial	9	6	12	+33.3%
White	13	1	2	-84.6%
Total	147	54	69	-53.1%
6-8				
African-American	35	38	33	-5.7%
Multiracial	2	2	1	-50.0%
White	21	13	10	-52.4%
Total	58	53	44	-24.1%
6-12				
African-American	35	22	17	-51.4%
Hispanic	0	1	3	+300.0%
Multiracial	3	5	5	+66.7%
White	20	17	21	+5.0%
Total	58	45	46	-20.7%
9-12				
African-American	262	263	288	+9.9%
Hispanic	2	2	3	+50.0%
Multi-Racial	44	33	33	-25.0%
White	129	104	70	-45.7%
Total	437	402	394	-9.8%
Special				
African-American	289	76	105	-63.7%
Multi-Racial	8	2	1	-87.5%
White	13	2	6	-53.9%
Total	310	80	112	-63.9%

Table 31. 3-Year Trend of Suspensions by Special Education Status in Schools Studied

School Type	2016 - 2017	2017 - 2018	2018 - 2019	Change in Suspensions
K-5				
IEP	1	1	1	0.0%
Not IEP or Gifted	1		1	0%
Total	2	1	2	0%
K-8				
IEP	38	29	28	-26.3%
Not IEP or Gifted	109	25	41	-62.4%
Total	147	54	69	-53.1%
6-8				
Gifted	6	-	-	-100.0%
IEP	20	25	13	-35.0%
Not IEP or Gifted	32	28	31	-3.1%
Total	58	53	44	-24.1%
6-12				
Gifted	7	11	9	+28.6%
IEP	3	2	5	+66.7%
Not IEP or Gifted	48	32	32	-33.3%
Total	58	45	46	-20.7%
9-12				
Gifted	10	6	11	+10.0%
IEP	126	133	110	-12.7%
Not IEP or Gifted	301	263	273	-9.3%
Total	437	402	394	-9.8%
Special				
IEP	310	80	112	-63.9%
Total	310	80	112	-63.9%

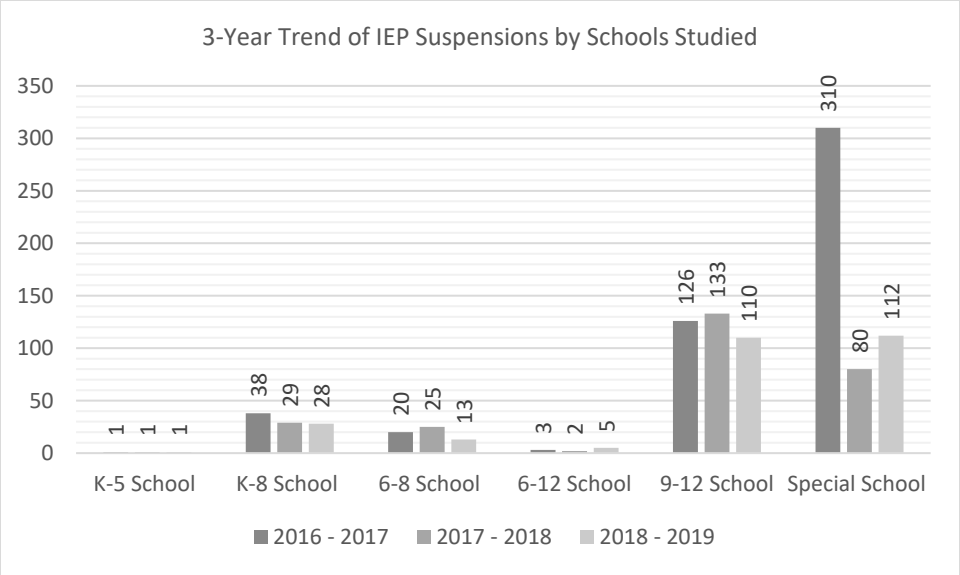


Figure 7. 3-Year Trend of IEP Suspensions in Schools Studied

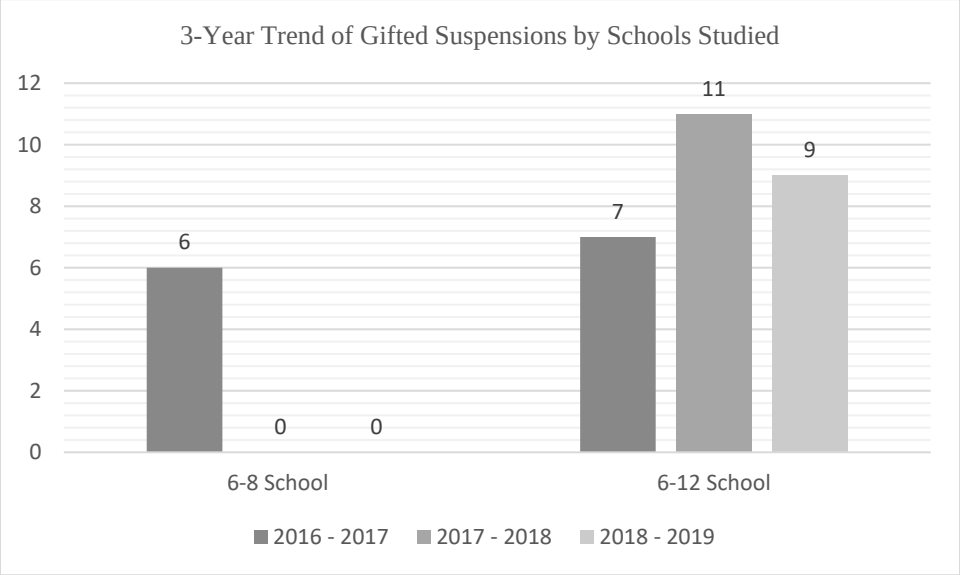


Figure 8. 3-Year Trend of Gifted Suspensions in Schools Studied

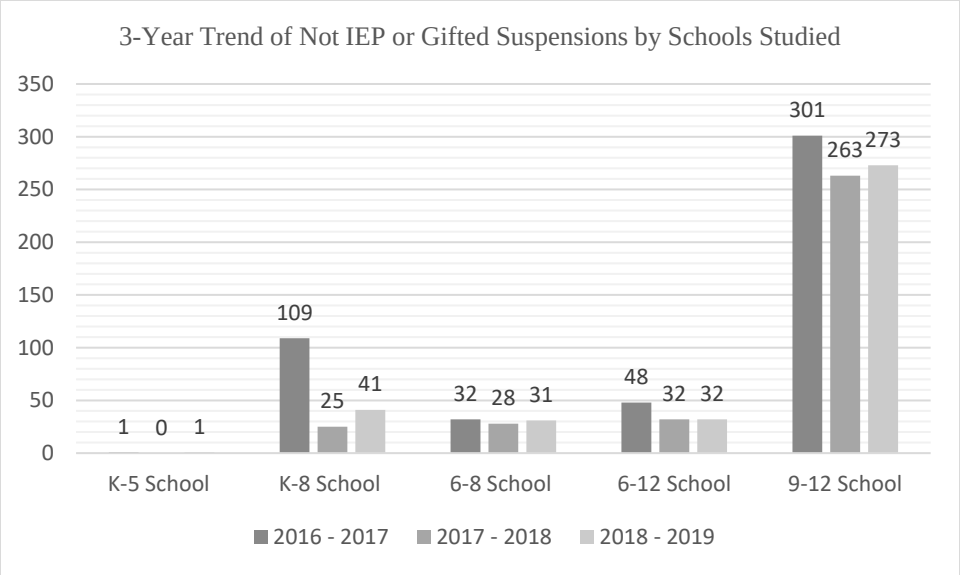


Figure 9. 3-Year Trend of Not IEP or Gifted Suspensions in Schools Studied

Table 32. 3-Year trend of Suspensions by Socioeconomic Status in Schools Studied

School Type	2016 - 2017	2017 - 2018	2018 - 2019	Change in Suspensions
K-5				
Yes	2	1	2	0.0%
Total	**2**	**1**	**2**	0.0%
K-8				
No	16	3	4	-75.0%
Yes	131	51	65	-50.4%
Total	**147**	**54**	**69**	-53.1%
6-8				
No		11	3	300.0%
Yes	58	42	41	-29.3%
Total	**58**	**53**	**44**	-24.1%
6-12				
No	33	31	22	-33.3%
Yes	25	14	24	-4.0%
Total	**58**	**45**	**46**	-20.7%
9-12				
No	81	27	29	-64.2%
Yes	356	375	365	+2.5%
Total	**437**	**402**	**394**	-9.8%
Special				
No	31	3	7	-77.4%
Yes	279	77	105	-62.3%
Total	**310**	**80**	**112**	-63.9%

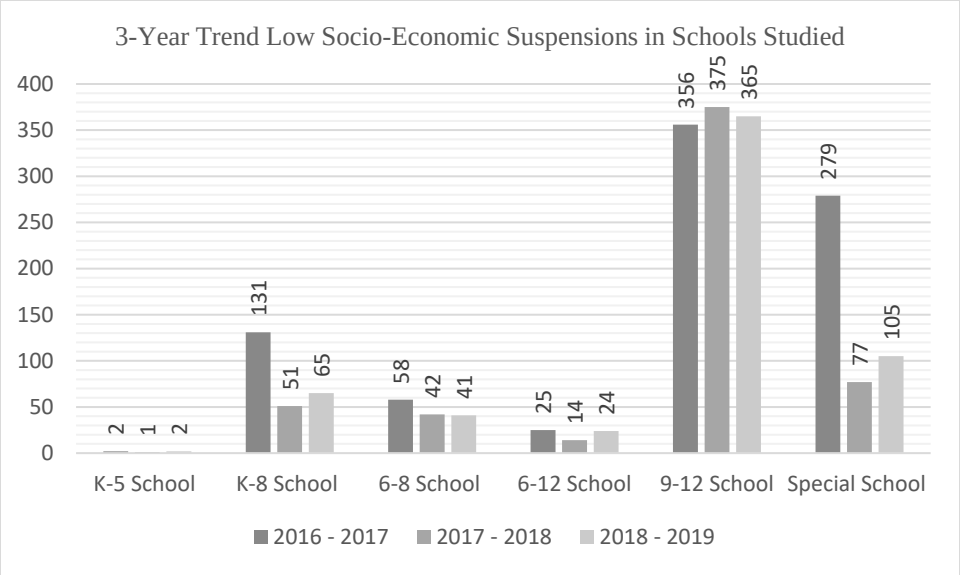


Figure 10. 3-Year Trend Low-Socioeconomic Suspensions by Schools Studied

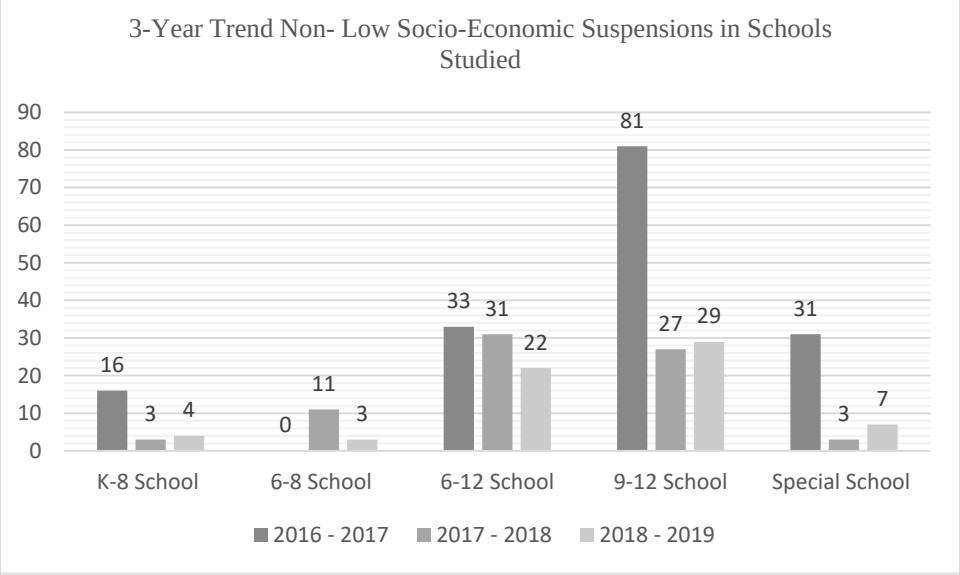


Figure 11. 3-Year Trend Non-Low-Socioeconomic Suspensions by Schools Studied

Table 33. 3-Year Overall Attendance Rate by School Studied

School Type	2016-17 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
K-5	92.5%	94.5%	94.2%	+1.7%
6-12	94.0%	94.8%	94.5%	+0.5%
9-12	86.7%	87.0%	86.9%	+0.2%
6-8	92.3%	91.3%	92.9%	+0.6%
K-8	90.4%	90.0%	90.2%	-0.2%
Special	73.1%	77.8%	84.7%	+11.6%

Table 34. 3-Year Trend of Attendance Rate by Gender in Schools Studied

K-5	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	92.0%	94.5%	94.8%	+2.8%
Male	92.8%	94.5%	93.8%	+1.0%

K-8	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	90.0%	89.9%	90.2%	+0.2%
Male	90.0%	90.2%	90.2%	+0.2%

6-8	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	91.3%	90.7%	91.9%	+0.6%
Male	93.4%	91.8%	93.9%	+0.5%

6-12	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	93.9%	94.9%	94.2%	+0.3%
Male	94.3%	94.5%	95.1%	+0.8%

9-12	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	86.6%	85.8%	84.5%	-2.1%
Male	86.8%	88.2%	89.2%	+2.4%

Special	2016-2017 Attendance Rate	2017-18 Attendance Rate	2018-19 Attendance Rate	Change in Attendance Rate
Female	72.6%	71.9%	79.8%	+7.2%
Male	73.2%	80.2%	86.8%	+13.6%

Table 35. 3-Year Trend of Attendance Rate by Race in Schools Studied

K-5	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	87.9%	91.0%	92.8%	+4.9%
White	93.1%	95.0%	94.4%	+1.3%
Other	93.7%	95.1%	94.8%	+1.1%

K-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	90.9%	89.9%	90.4%	-0.5%
White	90.1%	90.2%	88.8%	-1.3%
Other	85.3%	88.4%	90.5%	+5.2%

6-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	93.1%	91.8%	92.6%	-0.5%
White	91.4%	90.6%	93.2%	+1.8%
Other	90.6%	90.9%	94.1%	+3.5%

6-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	92.9%	95.0%	93.6%	+0.7%
White	94.3%	94.7%	94.7%	+0.4%
Other	95.3%	94.5%	95.3%	0.0%

9-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	84.5%	86.1%	85.9%	+1.4%
White	88.2%	87.6%	88.0%	-0.2%
Other	90.8%	89.4%	89.5%	-1.3%

Special	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
African-American	72.9%	80.4%	85.2%	+12.3%
White	89.8%	60.4%	77.6%	-12.2%
Other	53.3%	58.7%	90.8%	+37.5%

Table 36. 3-Year Trend of Attendance Rate by Special Education Status in Schools Studied

K-5	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
Gifted	96.0%	95.7%	97.5%	+1.5%
IEP	90.9%	94.3%	94.7%	+3.8%
Not IEP or Gifted	92.5%	94.5%	94.1%	+1.6%

K-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
Gifted	96.5%	95.3%	85.2%	+11.3%
IEP	91.5%	91.4%	89.5%	-2.0%
Not IEP or Gifted	90.2%	89.7%	90.4%	+0.2%

6-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
Gifted	93.3%	95.2%	94.6%	+1.3%
IEP	90.8%	89.2%	92.2%	+1.4%
Not IEP or Gifted	92.8%	91.6%	93.0%	+0.2%

6-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
Gifted	96.0%	96.1%	95.8%	-0.2%
IEP	94.6%	95.1%	94.5%	-0.1%
Not IEP or Gifted	93.1%	94.3%	93.8%	+0.7%

9-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
Gifted	92.6%	92.2%	89.5%	-3.1%
IEP	87.3%	87.6%	88.5%	+1.2%
Not IEP or Gifted	86.4%	86.8%	86.4%	0.0%

Special	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
IEP	73.3%	77.7%	84.6%	+11.3%

Table 37. 3-Year Trend of Attendance Rate by Socioeconomic Status in Schools Studied

K-5	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	92.2%	94.7%	95.9%	+3.7%
Yes	92.6%	94.4%	93.2%	+0.6%

K-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	88.2%	93.5%	95.6%	+7.4%
Yes	91.1%	89.4%	89.3%	-1.8%

6-8	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	93.1%	93.0%	93.8%	+0.7%
Yes	91.8%	90.2%	92.3%	+0.5%

6-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	94.4%	95.3%	95.2%	+1.2%
Yes	92.9%	93.4%	92.2%	-0.7%

9-12	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	87.0%	90.4%	91.7%	+4.7%
Yes	86.5%	85.6%	85.0%	-1.5%

Special	2016-2017 Attendance Rate	2017-2018 Attendance Rate	2018-2019 Attendance Rate	Change in Attendance Rate
No	69.6%	69.5%	81.4%	+11.8%
Yes	74.2%	78.7%	85.1%	+10.9%

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