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A Study of the Effect of Positive Behavior Interventions and Support on Student Behaviors and Academic Achievement in High-Poverty Schools

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by

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Declaration of Originality

I do hereby declare and attest to the fact that this is an original study based solely upon my own scholarly work here at Lindenwood University and that I have not submitted it for any other college or university course or degree here or elsewhere.

Full Legal Name:

Signature: _____ Date: 7/7/11

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Abstract

Closing the academic achievement gap is a national epidemic. Schools across the world struggle to meet the needs of all students, especially students in poverty. Educators look for many solutions to close the gap, but student behaviors are often overlooked. Research has shown that implementing a Positive Behavioral Interventions and Supports (PBIS) system can decrease office disciplinary referrals and increase academic achievement.

The purpose of this study was to add to the body of literature on PBIS, poverty, and academic achievement. This study was relevant because high-poverty schools across the world struggle to increase student academic achievement. This study analyzed high-poverty PBIS schools and determined whether a positive relationship existed between the percentage of students with fewer than two office referrals (Primary level) and the percentage of students in the Proficiency level or above on the Missouri Assessment Program (MAP) Communication Arts Exam.

The hypothesis of this study was to determine if high-poverty PBIS elementary schools reflect a relationship between the percentage of students with fewer than two office referrals (ODRs) and the percentage of students at the Proficiency level or above on the MAP Communication Arts Exam. This study analyzed student academic achievement data and ODR data in a suburban school district in St. Louis County, Missouri. All 17 elementary schools in the study were above the state average for students in the free/reduced lunch program, and all schools had implemented a PBIS system. The study determined that a positive relationship existed between the percentage

of students with fewer than two office referrals and the percentage of students in the Proficient Level or above on the MAP Communication Arts Exam.

In addition to the quantitative analysis, the researcher conducted site visits at two of the high achieving schools in the district. Educators in the school were interviewed and shared their experience with implementing a PBIS system and their successful PBIS strategies for how a school may successfully implement a PBIS system. Furthermore, an unintended variable, school leadership, surfaced as one of the key ingredients to a successful PBIS program.

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Chapter One: Background

According to Levin (2007), poverty is the single most influential factor in student academic achievement throughout the world. A child's socioeconomic community plays one of the biggest roles in what the child will be able to achieve. Unfortunately, schools that serve students from low socioeconomic backgrounds are often labeled as failing. Despite the millions of dollars spent, extensive research conducted, and hours of professional development provided, schools that serve students from low socioeconomic backgrounds are not performing well. Unfortunately, the problem is not new, and the percentage of students in poverty is increasing. Malecki and Demaray (2006) predicted that 25% of the youth in America will be living in poverty by the year 2020. Many factors determine student academic achievement, but poverty is one of the most significant variables. Because of the correlation between poverty and academic achievement, educators must further investigate alternative variables that increase student performances. One variable that educators have often overlooked that may have an impact on academic achievement is the decrease of student disruptions as defined by office disciplinary referrals (ODRs).

Poverty and Student Academic Achievement

Educators in the United States have widely used the term "academic achievement gap" to describe the inconsistent results of student performance on standardized tests between middle and upper class White and Black students or students living in poverty (Johntson & Viadero, 2000). Closing the academic achievement gap is one of the most controversial issues in education today. Due to inadequate student performances, public schools across America face potentially radical transformation and reform to increase the

academic achievement of low socioeconomic students. In 2001, President George W. Bush signed the No Child Left Behind Act (NCLB) to provide strategies to close the academic achievement gap between all students (Thompson, 2003). As cited by Causey-Bush (2005), NCLB is "the single largest nationalization of education policy in the history of the United States" (p. 333). American schools consistently look for solutions to close the achievement gap, but they struggle to find the strategies that can help low socioeconomic students succeed.

Academic performance of students in poverty is a growing concern for schools in America, but Levin (2010) reports that schools throughout the world have the same concern. As NCLB attempts to increase academic success and promote equity, an achievement gap still exists. Europe's Programme for International Student Assessment (PISA) has also shown a gap between high and low performing students. In fact, Germany has created the phrase "PISA Schock" (Levin, 2007, p. 75) in reference to this academic disparity. Overall, the statistics show that poverty is the most significant individual factor in student performances in all parts of the world.

School Reform

Over 50 years ago, the Supreme Court heard a historical legal case that changed the history of education: *Brown versus Board of Education*, which attempted to create equality for all students in the United States. It gave minority students the opportunity to receive an education of equal quality to that of White students. President Johnson later signed the Elementary and Secondary Education Act in 1965 to assist students in poverty. On March 14, 1994, President Clinton also increased federal educational funding by signing the Goals 2000 Educate America Act, but that was not enough to help minority

students achieve in schools (Kennedy, 2005). As cited by Karen (2005), President Bush claimed that many schools segregate students, practice social promotions, and have low expectations. Schools discriminate, and America should hold schools more accountable. Some school districts receive federal money for teaching poor students, but their students are not learning. Parents of children who attend failing schools should have the right to send their children to a school of their choice.

According to Karen (2005), Congress passed President George W. Bush's No Child Left Behind Act (NCLB) to reform schools and implement accountability in 2001. NCLB contains many elements, but it has five fundamental implications:

1. States evaluate schools based on standardized testing.
2. Schools must report testing data based on demographic subgroups.
3. States establish "adequate yearly progress" (AYP) expectations for all demographic subgroups, and by year 2014 all subgroups must score at "proficient" levels.
4. Schools that do not meet AYP expectations for two consecutive years must provide alternative education and professional development for teachers, and schools that fail to meet AYP expectations for more than two years must restructure.
5. Schools must have "highly qualified" (p. 166) teachers in all core classes.

One of NCLB's purposes was to close the academic achievement gap between middle and upper class White students and lower class minority students through a systematic process. The following five primary goals of the act were meant to help close the gap:

1. Students must improve academic achievement by means of high expectations and accountability.
2. Schools need to accept literacy as a priority.
3. Teachers must improve the quality of their teaching.
4. Schools must improve the instruction of math and science.
5. Students speaking English as a second language must move to English Proficiency levels (Thompson, 2003).

Student Discipline

Student academic achievement is a growing concern for our nation, but student misbehavior, defiance of school-wide policies, and safety are alarming variables that our schools face (Oswald, Safran, & Johanson, 2005; Scott, 2001; Turnbull et al., 2002). The Individuals with Disability Education Act (IDEA) issued in 1997 acknowledges the correlation between academic achievement and student behaviors. The Act requires schools to acknowledge students with chronic behavior problems and implement intervention strategies or perform a Functional Behavior Assessment (FBA). The FBA is individualized behavioral modification plan to help individual students succeed. In addition, the act requires schools to create school-wide behavior intervention plans to address the growing concern for problematic student behaviors (Gable et al., 2003).

One popular school-wide behavior intervention plan is Positive Behavioral Interventions and Supports (PBIS). As cited by Hendley (2007), schools that effectively implement PBIS can improve student behaviors and increase academic performances. Although much research has concluded that PBIS can improve student behaviors and academic performances, little research has shown the academic success of PBIS with

students in poverty. This study extended the research on PBIS and the impact of low socioeconomic schools on academic achievement.

Purpose

Positive Behavioral Interventions and Supports schools strive to reduce student disorderly conduct as measured by office disciplinary referrals (ODRs), but a more important goal is to improve their school-wide systems and increase the number of students at the Primary level. The Primary level is the percentage of students with fewer than two ODRs. The purpose of this study was to analyze high-poverty PBIS schools and determined whether a positive relationship existed between the number of students at the Primary level and the number of students at the Proficiency level or above on the MAP Communication Arts exam. This study only used the Communication Arts exam instead of Math exam because communication and literacy is one of the cornerstones of learning (Schmoker, 2011). If the study were to identify a relationship between student office referrals and student academic achievement, schools might consider implementation of the PBIS system or make improvements to their existing PBIS system in an effort to enhance their student academic achievement. The investigator shared successful PBIS strategies of academically successful high-poverty PBIS elementary schools by conducting site visits and staff interviews at two academically successful high-poverty PBIS schools. In addition, this study added to the existing PBIS research by providing further information about PBIS in high-poverty schools. Currently, limited research exists on high-poverty PBIS schools and student academic achievement. This study was relevant because high-poverty schools in North St. Louis County and across the world struggle to increase student academic achievement and reduce ODRs. This study may

have provided new and relevant findings for schools in St. Louis, the state of Missouri, and the entire educational community.

Rationale for the Study

The investigator of this study had a personal experience with PBIS implementation at Harper Middle School, a high-poverty school is St. Louis, Missouri. Teachers at Harper Middle School have participated in extended hours of professional development and higher education courses, but increasing student academic achievement is an ongoing battle in this school. District leaders often provide innovative instructional strategies and research proven methodologies, but implementing them in a classroom of disobedient students is difficult. Despite the hours of professional development and higher education courses, staff at Harper Middle School has received minimal training on classroom management and serving students in poverty, and in 2005-2006 the staff saw a drastic increase in student office referrals.

At the end of the 2005-2006 school year, school district administrators and directors assisted the school in creating a PBIS team. First, the team created goals for improvement, an action plan, and school-wide expectations that all students should behave safely, respectfully, responsibly, kindly, and cooperatively. Then, the team created lessons whereby every teacher taught universal expectations as part of a weekly routine, and the teachers publicly recognized students for displaying those positive behaviors. The team met twice a month to analyze student office referrals and it created systems that would prevent problematic behaviors. For the next three school years, the school experienced a substantial decrease in office referrals, and the school culture improved. Teachers received development to improve their classroom management

strategies, and with the help of new instructional leaders, teachers focused on academic rigor in their lessons. Harper Middle School had over 6,000 ODRs in 2005-2006 school year, and reduced the ODRs by 69% during the 2006-2007 school year. The administrators, teachers, and PBIS team thought the school's student academic achievement would have increased substantially, but it actually slightly went down. Another PBIS middle school in the same district, with similar demographics but a higher Primary level (percentage of students with fewer than two ODRs), had better results in student academic achievement. In the 2007-2008 school year, Harper Middle School increased its Primary level and academic achievement. In the 2006-2007 school year only 28.9% of students scored in the Proficiency level or above on the Communication Arts MAP, and in the 2007-2008 school year 33.5% of students scored in the Proficiency level or above on the Communication Arts MAP. In other words, when Harper Middle School increased their Primary level, their academic achievement also increased. Because of the apparent relationship between office referrals and student academic achievement, both schools in the district should work more diligently at improving their PBIS systems and school culture.

The information from this study provided additional research to school leaders, PBIS team members, Special School District PBIS facilitators, and Lindenwood University faculty and students. The findings from this study show a relationship between improved student behavior as defined by office referrals and student academic achievement, encouraging schools to increase their PBIS systems. In addition, participating schools had the ability to compare their results with other schools with similar demographics to determine if their systems are effective. Special School District

could have used the results to develop future PBIS schools, making use of this study as a tool for recruitment. Furthermore, the study added to the limited amount of research on the effectiveness of PBIS within high-poverty schools.

Independent Variable

This study analyzed high-poverty PBIS elementary schools in North St. Louis County, Missouri. The independent variable of this study was the percentage of students at the Primary level. PBIS schools in St. Louis county define the Primary level as the percentage of students with fewer than two office disciplinary referrals. Decreasing ODRs alone does not increase the percentage of students at the Primary level. To increase the percentage of students at the Primary level, PBIS schools must develop school-wide systems to increase the number of students with fewer than two ODRs.

Dependent Variable

The dependent variable of this study was the school's percentage of students at the Proficiency level or above on the MAP Communication Arts exam.

Hypothesis

High-poverty PBIS schools will have a relationship between their Primary level (percentage of students with fewer than two disciplinary office referrals) and their percentage of students at the Proficiency level on the MAP Communication Arts Exam. This study used 2007–08 school year PBIS Primary level and MAP data.

Limitations of the Study

Subject characteristics threat. For any correlated study, there are possible variables that may affect the results. In this case, these variables include academic achievement and the percentage of students at the Primary level. According to Levin

(2007), poverty has been the single greatest variable that can affect student achievement throughout the world. Schools with a greater percentage of students in poverty may have less students achieving at the Proficiency level or above, as the current study has shown. In addition to poverty levels, student demographics may affect the results of academic achievement. Schools with a higher percentage of minority students may have different results than schools with a lower percentage minority students.

Location threat. According to Fraenkel and Wallen (2000), studies that involve statistics collected at different locations have a possible threat to internal validity because of the different environments at each location. This study analyzed Primary level percentages and MAP achievement data from 17 high-poverty schools. Several extraneous variables such as instructional leadership, district initiatives, school philosophies, community influence, and parental involvement may have had an impact on the results.

Instrumentation threat. The purpose of this study was to determine if a relationship existed between behavior and academic achievement. Behavior is subjective could be influenced by classroom management, rules, procedures, and teacher to student relationships. To measure behavior, this study used ODRs as a measurement for identifying students in the Primary level. The Primary level is measured by the percentage of students with fewer than two ODRs. This variable is greatly influenced by the teacher or administrator who writes an office referral. Extraneous variables such as the teacher or administrator's philosophy, school-wide systems in place to prevent inappropriate behaviors, and school-wide systems in place to respond to inappropriate

behavior may have had an impact on the school's percentage of students at the Primary level.

PBIS fidelity of implementation. Several extraneous variables such as teacher participation, administrative support, PBIS team effectiveness, professional development, and district support may have had an impact on the implementation of the school's PBIS system and the percentage of students at the Primary level.

Number of subjects. The correlated statistics for this study were taken from data gathered from high-poverty PBIS schools in North St. Louis County. For a more accurate analysis, the investigator should have correlated data from more subjects. However, the number of high-poverty PBIS schools in North St. Louis County is limited.

Definition of Terms

High-poverty school. For the purpose of this study, a high-poverty school was defined as a school that has at least a 42% participation rate for the Missouri Free or Reduced Lunch Plan. According to the Missouri Department of Elementary and Secondary Education (MODESE) (2008), 41.8% of students were enrolled in the Free or Reduced Lunch Plan in 2007.

Free or Reduced Lunch Plan. According to MODESE (n.d.), Free or Reduced Lunch Plan participation for any given school year includes the percentage of students in a school who have enrolled in the program by January 1 of the school year. Families are eligible for the program based upon their gross income and the number of dependents per household.

PBIS school. For the purpose of this study, a PBIS school is a school that has a fully implemented PBIS system, has a PBIS team, and has submitted its office referral

data to its regional facilitator. The PBIS schools should have had a School Evaluation Tool (SET) survey conducted by a trained facilitator. The SET score was not used as a quantitative tool for this study, but results provided additional qualitative information.

MAP. This study used the MAP as a measure of student achievement. The MAP assesses multiple disciplines, but this study only analyzed the Communication Arts Exam of the MAP.

Academic achievement. For the purpose of this study, academic achievement is defined by the percentage of the school's student population at the Proficiency level or above on the MAP Communication Arts Exam.

Primary level. Special School District in St. Louis, Missouri provides development for St. Louis County schools and defines the Primary level as students with fewer than two office disciplinary referrals. According to MO SW-PBS, Missouri School Wide Positive Behavior Support (2011), PBIS schools implement primary preventions such as school-wide systems, lessons that teach and model expectations, and positive reinforcement plans to address the needs of students at this level. Schools should strive to have more than 80% of their students at this level.

Secondary level. Special School District defines PBIS Secondary level as the percentage of students with two to five ODRs. According to MO SW-PBS (20010), PBIS schools implement secondary preventions such as mentoring programs, targeted group counseling, and teaching and modeling of expectations in small groups to address the needs of students at this level. Schools should strive to have fewer than 15% of their students at this level.

Tertiary level. The PBIS Tertiary level is the percentage of students with chronic behavior problems. PBIS schools implement tertiary preventions such as individual behavioral assessments and individual counseling to address the needs of students at this level. Schools should strive to have fewer than 5% of their students at this level (MO SW-PBS, 2011).

Office Disciplinary Referrals (ODR). For the purpose of this study, an office disciplinary referral is a formal documentation of an individual student's inappropriate behavior written by a teacher or administrator. The office referral must be documented in the school's PBIS data tracking system. This study does not analyze the severity of the offense or the consequence assigned to the referral. PBIS schools strive to reduce ODRs, but more importantly, they should establish goals and systems to increase the number of students with fewer than two ODRs.

Elementary school. For the purpose of this study, an elementary school is a school with only grades kindergarten through sixth grade. This study only analyzed PBIS elementary schools in North St. Louis County. The elementary schools in this study were public schools that also served special needs students. The collaboration with Special School District of St. Louis County is a major reason why the school has a PBIS system. Special School District PBIS Facilitators trained school staff and monitored the implementation of their PBIS system.

School-wide PBIS. According to Lewis, Barrett, Sugai, & Horner (2010), PBIS schools implement school-wide expectations and systems to create an effective PBIS system. A team should develop a matrix of universal expectations and procedures for all students and teachers in the school to follow.

PBIS team. Lewis, Barrett, Sugai & Horner (2010) suggest school-wide PBIS teams develop a diverse team made up of teachers, staff members, administrators, and parents. The team is responsible for analyzing data, developing school-wide systems, creating universal expectations, and conducting other tasks according to its action plan and goals. The team must function as a collaborative group, practice group decision making, and only implement programs with authority and fidelity. Furthermore, Newcomer (2007) suggested that the PBIS team must operate with complete administrative support. School officials must allow the team to develop school-wide systems, and they must support the group's actions.

PBIS coach. The leader of the PBIS team is defined as the coach. Sugai (n.d.) explained that the coach is responsible for planning meetings, creating agendas, analyzing data, meeting with the school's PBIS facilitators, completing surveys, and performing other leadership roles to ensure the team is working as a unit. An effective coach plays a critical role in the success of the PBIS system for the entire school and should receive ongoing professional development support.

Universal expectations. One of the first roles of the PBIS team is to create a set of universal expectations for all students. The team must develop its own expectations based on the needs of the school. The PBIS system has made recommendations for these expectations, but each school must develop its own set of three to five expectations. Some popular expectations include safe, respectful, responsible, and positive behavior. All students, teachers, administrators, and support staff should know and understand the school's universal expectations. The universal expectations serve as the framework for

how the school should operate, and teachers must continuously teach and model the expectations on a daily basis (Newcomer, 2007).

Matrix. The PBIS team should develop a matrix based on the universal expectations. The matrix is typically a table, and it should specifically describe how students display the expectations in various parts of the school. For example, the matrix should explain how students are safe in the cafeteria, classroom, hallways, and bathroom. Moreover, the matrix should include measurable actions for each location and should not include vague statements. For example, "Students should say please and thank you in the cafeteria" is more appropriate than stating "Students should act nice in the cafeteria." To develop the matrix, the team members must first ask themselves a question: What should the behavior look like? After the matrix is created, the team can analyze data and decide how to create school-wide systems that prevent problematic behaviors (OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports, n.d.).

Classroom systems. The PBIS team should develop classroom systems that help prevent problematic behaviors and increase positive interactions. Classroom systems might include developing a set of class rules and procedures, posting universal expectations and the school matrix, adjusting schedules to accommodate students and learning, physically rearranging classrooms to create a positive environment, and teaching or reinforcing universal expectations on a scheduled routine.

Non-classroom systems. The PBIS team should develop systems and procedures for locations outside of the classroom such as the cafeteria, hallways, bathrooms, busses, assemblies, and any other location where problematic behaviors might arise. The team should follow the universal expectations and develop a set of procedures for these

locations. The procedures should include specific expectations for the students and supervision expectations for the teachers. More importantly, the school must teach and model how the students should behave in these locations. The team should constantly monitor the locations to ensure that the systems are working and to determine if any modifications are required.

School-wide systems. In addition to student expectations and procedures, the PBIS team should develop systems that support the school's goals to reduce office referrals and increase the number of students at the Primary level. Such systems might include developing a school-wide positive recognition program, preparing school-wide lessons, and creating a staff supervision schedule. Most important, the team must develop a plan to collect and analyze ODR referral data. The data must include the offense, time, location, motive, and consequence. The team must then analyze the data and use it to develop other systems that prevent problematic behaviors and create a positive school environment.

School Evaluation Tool (SET). PBIS schools use the formal SET to assess the fidelity of implementation of a PBIS system. A trained facilitator administers the SET near the end of the school year. The SET consists of student, staff, and administrative interviews, along with observations of the implementation of the program throughout the school. The SET score is based on a percentage, and an effective PBIS school should have at least an 80% score (OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports, n.d.).

Summary

Academic achievement of students in poverty is not only a growing concern for the United States, but also throughout the world. Schools must understand that poverty is a critical variable that can influence student success. In addition, schools should understand that inappropriate student behaviors could influence student performances. PBIS is an effective school-wide behavior intervention plan, and valid research exists to support the program. Unfortunately, an insufficient amount of PBIS research has been done to show the effectiveness of increasing academic achievement in high-poverty schools. This study added to the existing PBIS research and analyzed the relationship of office referrals and academic achievement in high-poverty schools. In addition, this study shared successful PBIS strategies of academically successful PBIS elementary schools in St. Louis County. This quantitative and qualitative study provided information for school leaders, administrators, and PBIS facilitators to help implement a successful PBIS system and possibly increase academic achievement.

Chapter Two: Literature Review

Due to student misbehaviors, teachers struggle to implement effective instructional strategies and increase learning. According to Warren et al. (2006), a 2004 study indicated that 76% of middle school and high school teachers claimed they could increase student performances if student misbehaviors decreased. Additionally, over 33% of the teachers claimed they have considered leaving the teaching profession due to student misbehavior incidents (Warren et al., 2006). One approach to decreasing student misbehaviors in school in America is implementing a Positive Behavioral Interventions and Supports (PBIS) system. The framing literature that was reviewed were the following topics: poverty and the achievement gap, academic achievement, classroom behavior, PBIS, PBIS teams, data-based decision making, PBIS triangle, PBIS evaluation, and PBIS studies.

Poverty and the Achievement Gap

According to Rothstein (2008), it does not matter if we send students in poverty to a high performing school, because they will continue to perform lower than their counterparts. Schools may provide high quality instruction, but they cannot overcome poverty because of the health and wellbeing of the child, and other inequities. Children in poverty are more likely to not have health or dental insurance which may lead to more sickness and absences, and students in poverty are more likely to have asthma which may lead to less sleep, fatigue, and less physical activity. Students in poverty are also more prone to have a lower weight at birth, more likely to have lead poisoning, and more likely to have iron-deficiency anemia. Overall, the lack of health and wellbeing can affect academic achievement and lead to disruptive behaviors. In addition to health, students in

poverty are also more likely to have a high rate of mobility (moving from school to school), which Hattie (2009) found is the single worst influence on academic achievement (d = -0.34).

Tileston and Darling (2007) confirmed that poverty greatly affects the academic achievement of students. On the other hand, they believe one attempt to close the academic achievement gap between lower performing schools and higher performing schools is high quality professional development for teachers. High quality professional development empowers teachers to differentiate instruction for diverse learners and equips them with research proven pedagogy. Williams (1996) suggested 11 pedagogical practices for teachers to close the achievement gap:

1. Have an understanding of your own beliefs and cultural background.
2. Have high expectations for all students and believe that the capacity to learn is not fixed.
3. Believe in equity for all students and take action to ensure that all students have equal opportunities to learn.
4. Make every effort to build long lasting positive relationships with students and remove barriers that separate those relationships.
5. Ensure that learning experiences are academically rigorous and students frequently have the opportunity to use higher-order thinking skills.
6. Acquisition of new knowledge must be followed by students making meaning using conceptual frameworks, personal connections, and collaborative dialogue to understand the new learning.
7. Make learning experiences authentic and meaningful.

8. Ensure the curriculum allows students to seek and understand the diverse cultures around them including their own.
9. Allow students to make meaning by connecting to prior knowledge and personal or cultural experiences.
10. Take time to teach the hidden rules of school.
11. Provide multiple opportunities for parents and community members to be involved in the education of the students.

Overall, poverty greatly affects academic achievement, but with high quality professional development and teacher efficacy, all students can increase academic achievement (Tileston & Darling, 2007).

Academic Achievement

Much of the educational research today is to determine what works in increasing achievement for *all* students. With all the research available, it is clear that the greatest impact on academic achievement is the capacity of the teacher (Marzano, 2007; Schmoker, 2011). In terms of academic achievement, it is more important for what classroom a student is in than what school he/she attends. Although poverty has a negative impact on academic success in schools today, the most effective weapon for increasing academic achievement is a highly qualified teacher (Hattie, 2009; Tileston & Darling, 2007).

Classroom Behavior

According to Hattie (2009), disruptive students can inadvertently have major ramifications for student learning. Not only do misbehaved students affect their own learning, but also affect the learning for other students in the class. To ensure academic

success for all students, teachers must prevent problematic behaviors. The solution is not to remove the students from the learning environment, but to ensure that the learning environment is conducive to learning by establishing a system to reduce disruptions.

PBIS

In the attempt to create a behavior intervention plan to accommodate the mandates of IDEA, to create a safe and orderly environment, and to reduce problematic student behaviors, over 5,000 schools in the United States have implemented a PBIS system (Bradshaw, Reinke, Brown, Bevans, & Leaf, 2008). According to the OSEP Technical Assistance Center on Positive Behavioral Interventions & Support (n.d.):

> Positive behavior support is an application of a behaviorally-based systems approach to enhance the capacity of schools, families, and communities to design effective environments that improve the link between research-validated practices and the environments in which teaching and learning occurs. (School-Wide PBS section, para. 1)

Research has indicated that PBIS is a scientifically-based program that can effectively reduce office disciplinary referrals (ODRs) if the program is implemented with fidelity (Cohen, Kincaid, & Childs, 2007; Lewis, Sugai, & Colvin, 1998; Irvin, Horner, Ingram, & Todd, 2006). In addition, PBIS research has suggested that proper implementation can increase academic achievement (Muscott, Mann, & LeBrun, 2008; Sailor et al., 2006; Simonsen, Sugai, & Negron, 2008). In response to the success and validity of the program, statewide PBIS systems have emerged in multiple states, including Missouri and Illinois (Barrett, Bradshaw, Lewis-Palmer, 2008; Killu, Weber, Derby, Barretto, 2006; Mass-Galloway, Panyan, Smith, Wessendorf, 2008; Sugai et al, 2010).

Foundation

PBIS was developed by George Sugai, Rob Horner, and other researchers from the University of Oregon. The researchers were some of the first to apply a systems approach to behavioral science to address problematic behaviors. Their goal was to develop a school-wide approach to addressing and preventing student misbehaviors in a systematic process (Warren et al., 2006).

PBIS avoids the traditional approach of responding to student discipline with consequences that are not effective. Instead, PBIS is a systematic process that places an emphasis on preventing problematic behaviors, modeling desired behaviors, rewarding students for following expectations, and using data to monitor effective implementation. Developing an effective PBIS system requires seven fundamental practices:

1. Develop a mutual view on disciplining students
2. Create a positive mission statement
3. Create positive universal expectations for students and staff
4. Develop a systematic process for teaching expectations to all students
5. Develop a systematic process for encouraging and rewarding students for following expectations
6. Develop a systematic process for assigning consequences for students who do not follow expectations
7. Develop a system for monitoring and evaluating school-wide systems through data analysis (OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports, n.d.)

According to Lewis, Barrett, Sugai, and Horner (2010) implementing PBIS creates the foundation for the culture of the school. A major component of PBIS involves empowering a PBIS team to address problem behaviors and find collaborative preventions. The PBIS team analyzes school-wide systems and implements improvements. Freeman et al. (2006) explained that PBIS schools employ a systematic approach to correct problem behaviors, prevent future problem behaviors, and use data to drive decision-making about school systems. The systems approach of PBIS practices five fundamental guidelines:

1. The school must accept the influence of social culture on learning before it can help students to achieve socially and academically.
2. The school must focus on preventing problematic behaviors.
3. Teachers must teach desired universal behaviors and remove situations or routines that may cause problematic behaviors.
4. The school must foster preventative student behaviors based on a hierarchy of importance.
5. The PBIS team must use data to effectively make decisions (Freeman et al., 2006).

PBIS Team

The first action that school officials should take when implementing the PBIS team involves developing a diverse team of positive people who are motivated to make changes. The team is one of the most important components of an effective PBIS system (Lewis, Barrett, Sugai, & Horner, 2010). The PBIS team should consist of general education instructors, special education instructors, administrators, support staff

members, parents, and other important stakeholders. One member from every department or grade level should participate on the PBIS team. The team is responsible for implementing six fundamental school-wide initiatives:

1. Develop foundational guidelines, systems, and procedures.
2. Locate and allocate fiscal operations to sustain the implementation of the school-wide program for multiple years.
3. Establish priorities rooted in data-based decision making and sustaining new program development.
4. Instruct and facilitate ongoing support to aid teachers in implementing effective school-wide practices.
5. Participate in local or regional PBIS training to become experts and to reduce the amount of support needed from external resources.
6. Conduct continuous monitoring and evaluations to determine the effectiveness of the program, whether implementations should proceed, and which implementations would require modifications (Sugai & Homer, 2006).

Data-Based Decision Making

Lewis, Barrett, Sugai, and Horner (2010) explain that before the team fully implements the PBIS system within the school and makes any school-wide changes, the team must collect the proper data. The team must collect traditional school data such as attendance, truancy reports, and office disciplinary referrals (ODRs). More importantly, the team must collect specific data for each ODR that includes the location, time, offense, consequence, and teacher who assigned the referral. This specific data will help the team make important decisions about school-wide systems. PBIS research conducted by

Lewis and Sugai (1999) indicates that middle school and high school ODR data can provide accurate details about the school's climate and the success of its behavior management systems.

Lewis and Sugai (1999) suggest that PBIS teams develop systems for collecting ODR data and should regularly create specific data reports that guide the team in decision making. The data should include graphs of the following, but is not limited to:

1. Number of ODRs per month
2. Average number of ODRs per day
3. Percentage of students with fewer than two referrals
4. Number of ODRs per location
5. Number of ODRs per offense

Furthermore, Lewis and Sugai (1999) suggest that the team should analyze the data on a regular basis, looking for common trends, problematic behaviors, and problematic areas. Data-based decision making will help the team make changes to school-wide systems. For example, a PBIS team in Oregon determined that over 80% of the ODRs of its school had been written for students fighting during outdoor morning and afternoon recess. Moreover, most of the fighting referrals came from only 8% of the student body. This informative data helped the team to develop new systems for outdoor recess and implement a positive recognition program for students following the recess expectations. The teachers in the school also taught the students specific conflict resolution strategies for dealing with difficult situations at recess (Lewis & Sugai, 1999).

PBIS Triangle

After the PBIS team analyzes school ODR data and creates school-wide expectations, Sprague and Golly (2005) recommended that the team develop a process through which to educate the students and faculty about meeting these expectations. This process typically involves teaching social skills, teaching the school-wide expectations, creating positive recognition programs, increasing active supervision, and following consistent consequences for misbehaviors. Unfortunately, these systems do not work for all students, and schools must follow a three-tiered, triangulated approach to correcting problematic behaviors (Sprague & Golly, 2005).

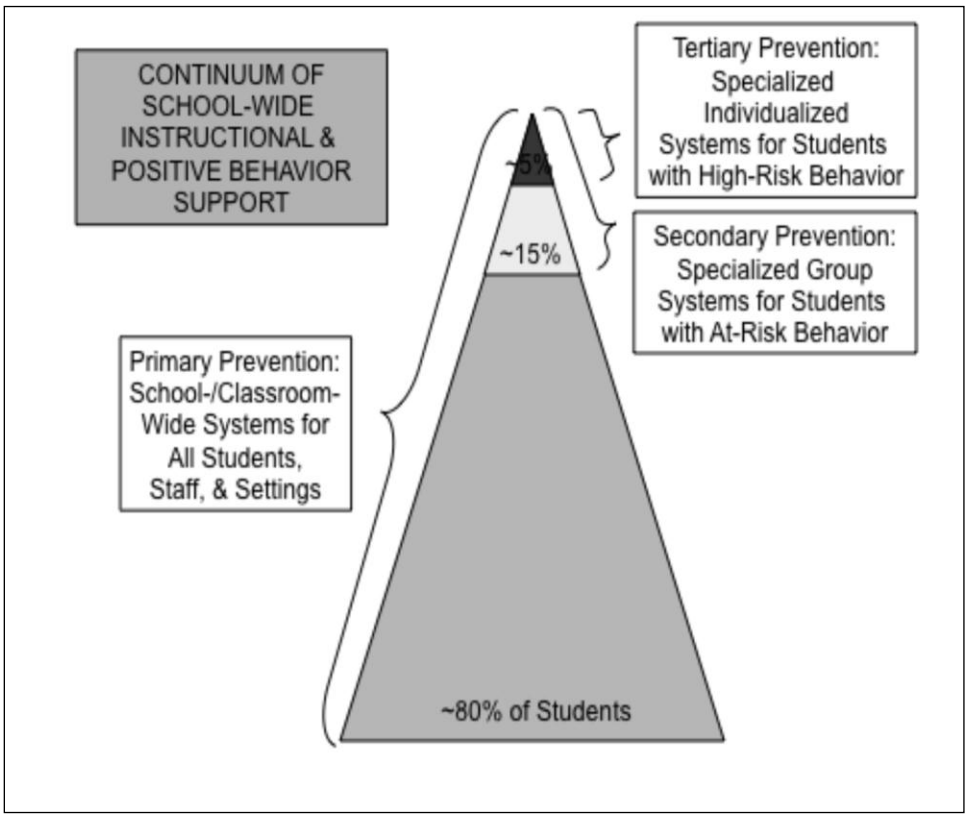

Figure 1. PBIS Triangle

Note. OSEP Technical Assistance Center on Positive Behavioral Interventions & Supports. (n.d.)

The PBIS triangle serves as the foundation for the program's systems approach. The vocabulary of the PBIS triangle has changed from its original description of effective behavior support (Lewis & Sugai, 1999) to the current PBIS model (Sugai & Horner, 2002). Overall, the PBIS triangle serves as a guideline for creating different levels of support for diverse student needs. The bottom or primary prevention level is the area that addresses school-wide implementation strategies. The primary prevention strategies should meet the needs of 80% of the student body population. The middle or secondary

prevention level is the area that addresses the needs of students who require additional opportunities to observe appropriate behaviors or need targeted social skills training. The secondary prevention strategies should meet the needs of 15% of the student body population. The top or tertiary prevention level is the area that addresses the needs of students who have chronic behavioral issues and need individual behavioral modifications. Tertiary prevention strategies are typically needed for only 5% of the student body population (Baker, 2005).

Primary Prevention

Primary prevention serves as the foundation of a school's PBIS system. The interventions at this level should address the needs of the entire student population. The decisions made for this level should come from school members, parents, and even community members (Sugai & Horner, 2006). According to Lewis and Sugai (1999), the first tier of prevention consists of establishing a system through which to teach all students universal expectations, such as being safe, respectful, and responsible. Teachers should regularly teach the new school procedures and give students the opportunity to model the expected behaviors. The school must also establish a common language that should be used by all members of the school. For example, a school might create an acronym that is commonly used to prevent fighting, pushing, or horseplay. A popular acronym in PBIS schools is "KAHFOOTY" (Keep All Hands, Feet, and Other Objects to Yourself). Sprague and Golly (2005) list the following as guidelines that schools should follow when establishing universal expectations:

1. The team should state the universal expectations in positive language, instead of as a set of rules.

2. Teachers should post the expectations in the classrooms, hallways, and other high traffic areas. In addition, the school should print the expectations in school publications such as newsletters and school handbooks.
3. Teachers should formally teach the universal expectations. The school should also create lessons that address the specific concerns of the school, and all teachers should have the time to teach the lessons.
4. The PBIS team should allocate time for teachers to teach the expectations up to 20 times per year. Teachers should formally teach the expectations at least 10 times per school year.
5. To fully implement an effective behavioral systems approach, the school should establish a positive recognition program that rewards students for following the universal expectations. All teachers, administrators, and support staff members should participate in the positive recognition program and should recognize students in all locations of the school. This might include areas such as the classroom, cafeteria, and hallways, and even on the bus.

Furthermore, Sprague and Golly (2005) explained that developing a school-wide positive recognition program is one of the key elements to establishing primary prevention. A school-wide positive recognition system is critical, because students respond to the behavior that is most recognized by the adults. For example, if teachers focus on the students' misbehavior, the students are more likely to continue the misbehavior. Likewise, if teachers focus on the positive behavior, students are more likely to continue the appropriate behavior. Therefore, teachers should systematically

strive to "catch" students following the school expectations to help the students continue this behavior (Sprague & Golly, 2005).

Secondary Prevention

Lewis, Barrett, Sugai, and Horner (2010) explain that primary preventions and school-wide expectations should work for most of the student body population, but those students who need additional support in order to successfully behave in school need secondary preventions. Secondary prevention is the second level on the three-tiered model, and it should provide additional support for targeted groups and individuals. The school counselors, teachers, administrators, and PBIS team should determine the degree of support for individual students based on their specific behavioral concerns. Sprague and Golly (2005) explain that in order to reduce problematic behaviors and improve the school culture, secondary preventions might include supplemental education programs, teacher and student mentor programs, adjustment of student schedules, support for students to help them self-monitor their progress, and additional incentives for students with chronic behavioral problems.

Another research-based secondary prevention program is a "check and connect" program. Research supports the idea that a check and connect program is successful at reducing ODRs for at-risk students in urban schools (McCurdy, Reibstein, & Reibstein, 2008). Check and connect has been used by educators for quite some time, and it is based on a simple process of increasing the student and adult interactions for students with chronic emotional, academic, and behavioral problems. The structure for the student and adult interactions includes a student behavioral progress report, also known as a tracking sheet. Behavioral reports have shown documented success as early as the

1980s. Most check and connect behavioral progress reports include specific expectations a student should follow throughout the day, daily written feedback from adults, constant and physical reminders of individual goals, the recording of quantitative progress for each day, and a form of communication between the school staff and the parents of the child.

The check and connect program consists of a student and adult creating goals and incentives based on quantitative data, and the student checking in and out with the adult. Every day the adult meets with the student and gives the student a personalized daily progress report that should be completed by the student's teacher(s) throughout the day. At the end of the day, the student reports back to the adult who checked the student in, giving the adult the progress report. The adult then provides feedback to the student about the report, and the student records the data from the report on a table. In addition, the student must take the progress report home to have it signed by his or her parent(s) or guardian(s). Overall, research supports the success of check and connect programs and indicates that students who seek adult attention and interactions are the most successful in the program (Todd, Campbell, Meyer, & Horner, 2008).

Tertiary Prevention

According to Lewis and Sugai (1999), more than 50% of ODRs are attributed to only 3% to 7% of the student population in some schools. This means that only a few students in the schools are creating over half of the disruptions. Tertiary prevention focuses on creating systems that address the needs of individual students. These students need additional support, because the school-wide and classroom systems are not enough to address their chronic behavioral problems. Pullen (2006) explained that primary

preventions that are used to reduce ODRs and improve the school culture are ineffective for 1% to 5% of the student population because these students display chronic misbehaviors and need extreme individual support. Tertiary preventions should provide individual support through the use of functional behavioral assessments (FBA), individual behavioral management plans, and environmental modifications.

According to Scott, Nelson, and Liapusin (n.d.), one of the most popular and research-supported tertiary preventions is the FBA. The school should develop an FBA team that will lead development and implementation of all individual support plans. The team should consider the following components of implementing an effective individualized program:

1. Effective FBAs have a correlation with effective school-wide systems. In other words, the school must have effective primary preventions and secondary preventions in place in order for a student to respond to the intervention.
2. The school must take a team-oriented approach to addressing students with chronic misbehaviors. For example, teachers, counselors, administrators, support staff members, and parents must work together to create an effective plan. Teachers or other school officials who take an individualistic approach to correcting the chronic misbehaviors of the students will not achieve success.
3. The FBA team must ensure that every adult who interacts with a student must know and understand the individualized modifications that were established for the child. This includes teachers, counselors, administrators, and support staff members.

4. The FBA team must understand that the preliminary screening, data collection, and development of the individual modification will take an extreme amount of time.
5. The team must use data to monitor and evaluate the success of the FBA implementation for each student (Scott, Nelson, & Liapusin, n.d.).

PBIS Evaluation

To evaluate the fidelity of implementation of any systems approach to change, ongoing evaluation must take place. One evaluation tool that schools use to evaluate their implementation is ODRs, because they give an accurate account of when and where the misbehaviors are occurring. In addition, ODRs should show what offenses the students are committing, where the offenses take place, when the offenses take place, and what students have the most offenses. Furthermore, the data can also show what teachers have written the most ODRs, and the team can help to support those teachers with additional training and classroom management strategies. Furthermore, the team should use ODR data to develop the school's action plan for implementation. The team should not only look at the total amount of referrals per year, but should also analyze different demographic subgroups to determine their responses to the implementation of the PBIS system. For example, the team should compare ODR data between genders, grade levels, ethnicities, and any other characteristics the team believes are important. The team should use this data in developing an action plan that supports existing implementation strategies and helps to support new systems (Sugai & Horner, 2006).

PBIS teams may also use the Effective Behavior Support (EBS) Survey to indicate the effectiveness of implementation. The EBS Survey analyzes the effectiveness

of PBIS schools in four key areas. The survey areas include school-wide implementation; classroom management and implementation; non-classroom implementation within the hallways, cafeteria, and other areas; and individual resources for students demonstrating chronic misbehaviors. The entire staff should complete the EBS Survey before the team implements the program, and staff members should revisit the survey later to analyze the effectiveness of the implementation (Bohanon et al., 2006).

Another popularly used assessment tool for measuring the fidelity of PBIS implementation is the School-wide Evaluation Tool (SET). Horner et al. (2004) explained that the SET is used by PBIS schools for "(a) assessing the need for training, (b) assessing the impact of personnel development efforts in the area of school-wide PBS procedures, and (c) developing locally effective strategies for building school-wide PBS outcomes" (p. 10). Furthermore, the SET was statistically tested and has proven to be a reliable means of measurement.

Lassen Study

Lassen's (2007) study expanded on the PBIS literature and examined the relationship of PBIS and academic achievement with an inner-city middle school. The study consisted of four methods that included the following:

1. Modeling a previous investigation used in implementation of PBIS within inner city schools.
2. Analyzing the school data of an urban middle school after three years of implementing PBIS.
3. Analyzing the correlation between problematic student behaviors and academic achievement.

4. Using another school as a control variable.

Lassen's study had three hypotheses, they were (a) to decrease student discipline compared to that of the control school, (b) increase academic achievement, and (c) discover a negative correlation between student discipline and student achievement in both the PBIS and the control school. The independent variable of this investigation was the implementation of the PBIS, and the population was an inner-city middle school. There were several dependent variables of this study because of the multiple hypotheses. The dependent variables for measuring student behavior included office referrals, detention referrals, and suspensions. The Metropolitan Achievement Test, Seventh Edition (MAT7) was used as a dependent variable to measure student achievement (Lassen, 2007).

Statistical procedures. Lassen (2007) first conducted an independent t-test to determine if there was significant statistical difference between the dependent variables using a 0.001 alpha. The results demonstrated that there was a significant difference in math scores but no significant difference in reading scores. Furthermore, there was a significant difference in ODRs between the target school and comparison school, with the targeted school having a significantly higher rate of ODRs.

Because there were four hypotheses in Lassen's study, it was necessary to use a variety of statistics to measure the dependent variables. To measure the ODRs between the schools, the author used descriptive statistics and one-way analysis of variance (ANOVA). ANOVA was also used to analyze the overall data between the two schools after three years. Finally, to determine the levels of academic achievement, single series regressions were completed to compare the two schools.

Results of Lassen's study. Lassen (2007) conducted tests for multiple hypotheses. The first test was to determine if implementing PBIS would significantly reduce ODRs and suspensions. The results indicated that both the targeted and comparison schools significantly reduced ODRs and suspensions. The second test was to determine if the targeted PBIS school would have greater academic achievements than the non-PBIS school. The results indicated no significant difference in math or reading scores between the targeted and comparison schools. The third test was to determine if a negative correlation existed between ODRs and academic achievement for both the targeted PBIS school and the comparison school. The results of the multiple linear regressions indicated a negative correlation between ODRs and academic achievement, and a negative correlation between suspensions and academic achievement. In summary, students who had fewer ODRs or suspensions scored higher on math and reading standardized tests.

Hattie Study

Although Hattie's (2009) research was not about PBIS, his meta-analysis was to determine what effects academic achievement, and the results supported some of the principles of PBIS. Hattie's overall concern was there was so much research and evidence of "what works" in education, but little improvement has been made in schools over the past 200 years (p. 3). The approach was to synthesis over 800 meta-analyses to create a vision for schooling, and not create a list of best practices.

Statistical procedure. According to Hattie (2009), Gene Glass was the founder of meta-analysis studies in 1976. Glass was able to convert the traditional article review of multiple studies into a quantitative measurement called effect size where the researcher

could compare different studies. Hattie's study was to synthesis over 800 meta-analyses to compare what influences such as programs, approaches, or variables effect academic achievement. Out of the 800 meta-analyses, the researcher determined there were 138 different influences that might affect academic achievement. Out of the 138 different influences the team determined there were six different domains of influence (home, student, school, teacher, teaching, and curriculum). The 800 meta-analyses consisted of over 52,000 studies on academic achievement, had over 146,000 effect sizes, and over 236 million student samples. The work started in 1992 with only 132 meta-analyses and was not published until 2009.

To begin, Hattie and his researchers had to create an appropriate scale to measure all of the outcomes to be able to compare and rank the 138 academic influences. To create the comparative measure, Hattie used effect size as a measurement tool and created a unique barometer to explain the effectiveness of each influence. The team set the barometer at and effect size of $d = 0.40$. Anything above $d = 0.40$ would be considered more effective and anything less than $d = 0.40$ would be considered less effective. In comparison, an effect size of $d = 1$ represents that the treatment/influence would result in students increasing one standard deviation. In other words, students receiving the treatment would exceed 84% of their peers not receiving the treatment. Furthermore an effect size of $d = 1$ is equivalent to two to three years of academic growth.

Results from Hattie's study. Hattie (2009) and his team created a distribution of all effect sizes and determined that a normal distribution was evident. This means the typical bell shaped curved existed and some influences were highly effective, some had a negative effect, and about 90% of the influences had a slight influence (about $d = 0.40$).

Overall, it's important to note that over 95% of all influences had a positive impact on academic achievement. This means that almost everything a teacher or school does has some impact on academic achievement. The goal is to determine what is most effective (> d = 0.40) and what is least effective (< d = 0.40). Out of the six domains, the results indicate that the greatest influence on academic achievement is the teacher, the curriculum, and the teaching (in that order). In other words, "take two students of the same ability and it matters less to which school they go than the influences of the teacher, curricula program, or teaching they experience" (p. 18).

Table 1

Most Effective Influence on Academic Achievement

Influence	**Effect *(d)***	**Rank**
Self-reported grades	1.44	1
Piagetian programs	1.28	2
Formative assessment	0.90	3
Micro teaching	0.88	4
Acceleration	0.88	5
Classroom behavior	0.80	6
Interventions for special needs students	0.77	7
Teacher clarity	0.75	8
Reciprocal teaching	0.74	9
Feedback	0.73	10
Teacher-student relationships	0.72	11

Note. From Hattie (2009).

Table 2

Least Effective Influence on Academic Achievement

Influence	Effect *(d)*	Rank
Multi-grade/age classes	0.04	131
Student control over learning	0.04	132
Open versus traditional	0.01	133
Summer vacation	-0.09	134
Welfare policies	-0.12	135
Retention	-0.16	136
Television	-0.18	137
Mobility	-0.34	138

Note. From Hattie (2009).

According to Hattie (2009), educators should not simply analyze what is the most effective influences (see Table 1) or the least effective influences (see Table 2) but understand how these influences impact pedagogy. Hattie suggested that to increase achievement, learning must be the fundamental goal, and passionate teachers must provide challenging opportunities for students to master the goal. Overall the results of Hattie's study suggest that the most effective practice is for teachers to become reflective practitioners and continuous learners and for students to become self-learners and assessors. The bottom line, teachers and students must take an assessment for learning approach that involves setting goals, increasing feedback, self-assessment, and self-monitoring.

Summary

For many years, educators have debated about the causes of the academic achievement gap between middle class students and students in low socioeconomic areas, and they have tried to find solutions to help improve student achievement. Some research has shown a correlation between academic achievement and student discipline.

In response to problematic behaviors, schools have implemented school-wide positive behavior support systems to decrease office referrals and improve the school culture. The PBIS system is research-supported and has been proven to reduce ODRs in schools by applying a systems approach to preventing problematic behaviors instead of merely responding to the inappropriate behaviors. One of the first and most important steps in implementing an effective PBIS system is the development of a team. PBIS schools should develop a team of teachers, support staff members, administrators, and parents to help implement a PBIS system. The team should develop a set of universal expectations and analyze student ODRs to determine a hierarchy of need for change. The PBIS team should also use a three-tiered approach to reducing ODRs and improving the school culture. Primary preventions should address the needs of all students, secondary preventions should address the needs of some students, and tertiary preventions should address the individual needs of only a few students. Furthermore, PBIS schools should use the EBS Survey and SET to determine the fidelity of the implementation of their PBIS system.

Overall, research has indicated that implementing a PBIS system can reduce ODRs and increase student academic achievement. The purpose of this study is to determine if the implementation of PBIS can help to close the academic achievement gap and assist high-poverty schools in achieving greater results on standardized tests. Although there is little or no prior research to support this hypothesis, this project comprises an investigation of it through a comprehensive study.

Chapter Three: Methodology

The purpose of this study was to add to the body of literature on Positive Behavioral Interventions and Supports (PBIS), poverty, and academic achievement. This study is relevant because high-poverty schools across the world struggle to increase student academic achievement. This study analyzed high-poverty PBIS schools and determined whether a relationship existed between the percentage of students with fewer than two office referrals (Primary level) and the percentage of students in the Proficiency level or above on the MAP Communication Arts Exam.

Independent Variable

This study analyzed 17 high-poverty PBIS elementary schools in St. Louis County, Missouri. The independent variable of this study was each school's percentage of students at the Primary level. The investigator of this study defined the Primary level as the percentage of students with fewer than two disciplinary office referrals.

Dependent Variable

This study compared a school's percentage of students at the Primary level with the dependent variable of school's percentage of students at the Proficiency level or above on the MAP Communication Arts exam.

Research Question

Can high poverty PBIS elementary schools in St. Louis County, Missouri, increase student academic achievement by implementing effective PBIS systems and increasing the number of students at the Primary level?

Hypothesis

High-poverty PBIS elementary schools reflect a relationship between the percentage of students with fewer than two office referrals and the percentage of students at the Proficiency level or above on the MAP Communication Arts Exam.

Null Hypothesis

High-poverty PBIS elementary schools do not reflect a relationship between the percentage of students with fewer than two office referrals and the percentage of students at the Proficiency level on the MAP Communication Arts Exam.

Population and Sampling

This study investigated high-poverty PBIS elementary schools to determine whether there is a relationship between student office referrals and student academic achievement. The investigator did not use individual student data for this study. The investigator analyzed MAP and free/reduced lunch secondary data from the Missouri DESE website and PBIS data from Central School District (see Table 3). The investigator analyzed data from approximately 17 different PBIS schools listed in the Central School District. The researcher only investigated high-poverty PBIS schools. Each school must have had at least 42% of the student population on the state's free/reduced lunch plan. In addition, the school must have implemented PBIS for at least one year. In summary, the elementary schools included in this study had two characteristics: (a) at least 42% of the student population was on the free/reduced lunch program, and (b) the school had implemented PBIS for at least one year.

Table 3

Central School District Compared to Missouri Average

Communication Arts MAP		
Annual Proficiency Target: 59.2	**Central School District**	**Missouri**
School Total (All Students)	40.4	51.2
Asian/Pacific Isl.	61.8	61.7
Black	35.3	29.7
Hispanic	50.6	37.7
American Indian	50	51.1
White	60	56.6
F/R Lunch	32.9	36.9
IEP	17.9	23.6
Non-Native English	23.3	24.7

Note. From MODESE (n.d.).

Study sites. The investigator used Central School District because all of its elementary schools met the requirements for the study. All 17 elementary schools in the district were high-poverty schools. This meant that every school was above the state average for the percentage of students on the free or reduced lunch plan. Each elementary school also has a fully implemented PBIS team and had been supported by Special School District PBIS facilitators. Central School District was a typical diverse urban school district outside the main city of St. Louis (see Table 4). The district had almost 12,000 students, and over 78% of them were Black while over 19% were White. In 2009, 63.6% of the students were on the free or reduced lunch plan as opposed to only 43.7% for the entire state. Central School District had only a 93.3% attendance rate as compared to the state's 95.1% attendance rate. Despite the lower academic achievement

as compared to the state average, Central School District teachers and administrators are paid more than the state average (MODESE, 2008).

Table 4

Central School District compared to Missouri average

Mathematics		
Annual Proficiency Target: 54.1	**Central School District**	**Missouri**
School Total (All Students)	30.4	47.6
Asian/Pacific Isl.	68.6	64.8
Black	25	23
Hispanic	42.6	35.8
American Indian	50	44
White	50.9	53.6
F/R Lunch	24.8	34.1
IEP	14.4	25.9
Non-Native English	17.1	28.6

Note. From MODESE (n.d.).

Academic achievement. Like most urban schools across the world, Central School District has a wide academic achievement gap between White students and Black students. In addition to the achievement gap between White and Black students, Hispanic students scored higher than Black students on both Communication Arts and mathematics MAP assessment. Even though this is a statewide phenomenon, the gap between Hispanic and Black students appears wider in the Central School District. Furthermore, neither Central School District nor the State had ever met the AYP as determined by MODESE. On the contrary, Black students in Central School District did score higher than the state average for the year of the study. This observation was

another reason why the investigator was interested in studying the Central School District.

Positive Behavioral Interventions and Supports. Special School District (SSD) in St. Louis, Missouri, provides special education support for all of the St. Louis County districts. In addition, at the time of this study, SSD provided PBIS support to any school that wants to create a PBIS school-wide or district-wide initiative. One of Special School District's first PBIS partnerships was with Central School District. Special School District provided developmental support to all schools and helped to form school teams, which then created their own universal expectations. Special School District also provided regional support by facilitating meetings between other districts so they could share their successful PBIS strategies. Central School District decided all schools would use PBIS as the behavior modification system and had created a district-wide PBIS team that supported all of the schools. Special School District helped Central School District's district-wide team to budget, plan, organize, and implement effective PBIS programs in each school. Every school in Central School District started their PBIS system on different years, but most of the schools implemented PBIS between 2002-2004.

Table 5

Central School District Comparison

School	Enrollment	Attendance Rate	Free/Reduce Lunch	Primary level	Communication Arts MAP
Franklin	283	95.1	49.1	98.2	63.3
Jackson	381	96	48.7	97.5	57.9
Madison	437	96.6	51.3	95.7	47.8
Schultz	325	94.6	79.6	93.5	41.3
Harrison	414	94.8	62	95.5	40.7
Tyler	368	95.9	51.9	94.1	39
Roosevelt	585	95.6	51.9	94.8	38.8
Washington	232	95.5	62.6	95.7	37.7
Jefferson	288	95.4	84.7	95.4	36
Charleston	344	95.2	65.2	97.4	34.4
Addison	295	93.7	87.5	90.7	34.4
Johnson	457	94.8	80.8	89.7	33.2
Lincoln	296	94.9	63.8	96.6	33.1
Kennedy	201	93.6	84.7	98.1	30.6
Regan	276	93.7	84.2	92.2	28.8
Grant	408	94.8	84.3	94.9	28.3
Clinton	291	93.1	93.7	92.3	24.5
Average	**345.94**	**94.90**	**69.76**	**94.84**	**38.22**

Note. From MODESE (n.d.) and data received from Central School District for this study.

Research Design

The research design of this study consisted of two components. The quantitative component was a correlation study between the percentage of students in the Primary level and the percentage of students in the Proficiency level or above on the MAP. The qualitative study consisted of conducting site visits and interviews at two of the higher

achieving schools in the Central School District. The researcher used Central School District because all of its 17 elementary schools have at least 42% of their students on the free/reduced lunch program, and all of their schools have been implementing PBIS for over one year (see Table 5).

Quantitative study design. An electronic spreadsheet was used to collect the percentage of students in the Primary level for each elementary school in the district. Next, the investigator collected each school's percentage of students in the Proficiency level or above for the 2008–2009 MAP Communication Arts Exam on the same electronic spreadsheet. The MAP data was available on the MODESE school data website. This data was held in the public and the state records, showing each district's and school's demographic and academic achievement data.

Analysis methods. The investigator then conducted a Pearson Product Moment Correlation Coefficient to analyze the relationship between each school's percentage of students in the Primary level and the percentage of students in the Proficiency level or above on the MAP Communication Arts Exam.

Qualitative study design. After the investigator conducted the Pearson Product Moment Correlation Coefficient, the investigator determined two elementary schools to visit. Franklin Elementary and Schultz Elementary were selected for the site visits (Figure 2). Franklin Elementary was selected because it had the highest academic achievement level and Primary level in the district. Schultz Elementary was selected because it was the only school in the district that was above the district average in two categories (percentage of student on the free or reduced lunch plan and percentage of students in the Proficiency level).

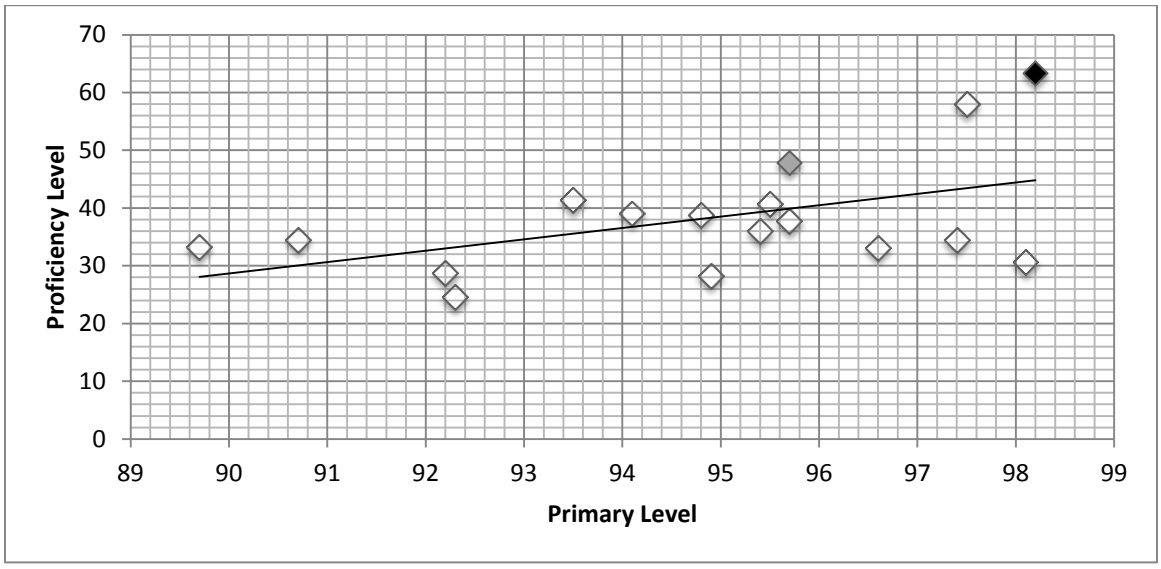

Figure 2. Percentage of Students at Proficiency versus Primary levels for Elementary Schools in Central School District.

Note. Black diamond is Franklin Elementary and gray diamond is Schultz Elementary

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Because this study focused on high-poverty elementary schools, the investigator looked at the degree of poverty for each school as well (see Table 6). Instead of visiting the two schools with the highest achievement, the investigator selected Schultz Elementary. Schultz Elementary was the only school that was above the district average for the percentage of students on the free/reduced lunch plan and the percentage of students in the Proficiency level or above on the MAP.

Table 6

Lunch Plan and MAP Data Comparison

School	Percentage of Students on the Free/Reduced Lunch Plan	Percentage of Students at the Proficiency level or Above on MAP
Franklin	49.1	63.3
Jackson	48.7	57.9
Madison	51.3	47.8

Schultz	79.6	41.3
Harrison	62	40.7
Tyler	51.9	39
Roosevelt	51.9	38.8
Washington	62.6	37.7
Jefferson	84.7	36
Charleston	65.2	34.4
Addison	87.5	34.4
Johnson	80.8	33.2
Lincoln	63.8	33.1
Kennedy	84.7	30.6
Regan	84.2	28.8
Grant	84.3	28.3
Clinton	93.7	24.5
Average	**69.76**	**38.22**

Note. From MODESE (n.d).

The investigator visited the two schools with the highest achievement and used the site visit walkthrough observation form to collect observation data (Appendix B). The site visit walkthrough observation form was similar to the PBIS School Evaluation Tool (SET), which measured the fidelity of implementation. Every PBIS school should have a trained facilitator conduct the SET every year to measure the effectiveness of implementation. One of the differences between the site visit walkthrough observation form for this study and the SET was the student interaction and interviews. The investigator in this study did not interact with or interview students. On the other hand, the investigator did observe the interactions between the teacher and students.

The main purpose of the site visit walkthrough form was to observe if PBIS was physically evident in the school. The investigator looked for school-wide expectations posted throughout the school. The expectations could be in the form of posters, bulletin boards, or various signs that used the school's universal expectation language. To make

these observations, the investigator must first understand what the school uses for universal expectations. From the investigators experience, some schools may just use terms such as "safe," "respectful," "responsible," "kind," and "cooperative," but another school may use a catch phrase such as "the Franklin Bees," which may mean "be safe, be respectful, be responsible, be kind, and be cooperative." In addition to expectations, the investigator looked for evidence of school rules or procedures in various locations. The universal expectations are the school-wide terms the PBIS team has adopted for its foundation of behavioral expectations. Rules and procedures are typically step-by-step routines that students or parents should follow in different locations. For example, in the hallway there may be a sign that states, "RU-A-VCR" which means:

- Right side of the hallway
- Use appropriate language
- Always walk
- Voices down
- Class on time
- Running not allowed

In the office, there may be a procedures sign for parents or students to follow when they enter the office.

In addition, the investigator used the site visit walkthrough form to record observations from various classrooms. The investigator looked for universal expectations, rules, or procedures, and other evidence of expectations being taught in the classroom. For example, classrooms throughout the school may display student work such as drawings, diagrams, or student created signs of how those classrooms are safe,

respectful, responsible, kind, and cooperative. In addition, classrooms may show some evidence of following or highlighting a school-wide positive recognition program. For example, the school may have a program called Shining Stars in which teachers and staff can recognize students for following one of the school-wide expectations. The stars are slips of paper that may be collected in a bin in the cafeteria, and at the end of the week, students are selected for a prize or recognition. A classroom may extend this positive recognition program by keeping track of how many stars its students earned each week in order to earn a classroom-wide reward. Classrooms may also have their own positive recognition program that is aligned with the universal school expectations. Furthermore, the investigator used the site visit walkthrough form to record other observations such as the overall climate of the school. For example, the investigator might note how students behave in and out of the classroom, how staff interact with students, and the physical aspects of the school such as cleanliness, aroma, and landscaping.

In addition to the site walkthrough observation form, the investigator conducted a series of interviews at each school using the site visit interview form (Appendix C). For each school, the investigator interviewed the head principal, a classroom teacher, and a non-classroom instructor. Either the classroom teacher or non-classroom teacher must have served on the school PBIS team. The interview questions were similar to the SET interview questions on checking for the fidelity of implementation of the school's PBIS program. The interview focused on the staff's knowledge of PBIS in the school, implementation of PBIS in the school, and the impact of PBIS on student achievement and behaviors. In addition, the interview focused on other structures or systems in the school that may have affected academic achievement. For example, the interviewer

might ask what school-wide initiatives have taken place such as professional learning communities, character education, action research, and teacher leadership development.

Interpretation, Collection of Data, and Limitations

The information from this study provides additional research to school administrators, PBIS team members, Central School District, Special School District PBIS facilitators, and Lindenwood University faculty and students. The study may find a relationship between office referrals and student academic achievement. Schools may then want to increase their behavior improvement programs in order to improve their school culture and academic achievement. Schools also have the ability to compare their results with other schools that have similar demographics to determine whether their systems are effective. Special School District provides PBIS training for St. Louis districts and can use the results of this study to support future PBIS schools, also using this study as a tool for recruitment. Furthermore, the study will contribute to the limited amount of research on the effectiveness of PBIS within high-poverty schools, illustrating the positive effect that decreasing office referrals can have on student achievement. Schools may use the study to focus on creating a positive school environment for all staff and students in order to improve academic achievement. In addition, schools that implement a PBIS program teach their students social and behavioral skills that help them become successful at school and in the community.

Poverty and achievement. According to Levin (2007), poverty is the single greatest reason for low student achievement throughout the world. This study analyzed academic achievement in high-poverty schools. Schools with a greater percentage of students in poverty may have fewer students achieving at the Proficiency level or above.

Using different schools. This study only analyzed office referral and achievement data from multiple high-poverty schools. Several extraneous variables such as instructional leadership, student demographics, district initiatives, school philosophies, community influence, and parental involvement may have an impact on the results.

Office referrals as a variable. The percentage of students at the Primary level is measured by the percentage of students with fewer than two office referrals. This variable is greatly influenced by the teachers or administrators who write the office referrals. Extraneous variables such as a teacher or administrator's philosophy, school systems in place to prevent inappropriate behavior, and school systems in place to respond to inappropriate behavior may have an impact on the school's percentage of students at the Primary level.

PBIS implementation. Several extraneous variables may have affected the effectiveness of each schools PBIS system. Some extraneous variables may include teacher participation, teacher leadership, administrative support, PBIS team effectiveness, professional development, and district support. These variables may have an impact on the implementation of the school's PBIS program and the percentage of students in the Primary level.

Summary

High-poverty schools face many challenges, and most often do not meet the mandates of standardized testing. A wide gap between Black and White students is evident in most schools across the country and the state of Missouri. Central School District also has a wide academic achievement gap between White and Black students, between students who are on the free or reduced lunch program and those who are not,

and between Hispanic students and Black students. On the other hand, Central School District has made great strides to increase academic achievement for all students, which is evident because the Black students have scored above the average as compared to other Black students in Missouri. Central School District has created many initiatives to reduce academic disruptions by implementing a district-wide Positive Behavioral Interventions and Supports program in every elementary school in the district. Decreasing the need for student discipline could possibly be an important factor that could increase student academic achievement.

This study collected data from 17 PBIS schools and analyzed each school's percentage of students at the Primary level (fewer than two ODRs) and the percentage of students at the Proficiency level or above on the MAP Communication Arts Exam. The investigator then identified two schools that had a high percentage of students in the Primary level and a high percentage of student at the Proficiency level or above on the MAP Communication Arts Exam. The investigator conducted site visits to the two schools and used and walkthrough observation form to collect findings about their PBIS systems. Furthermore, the investigator conducted interviews with teachers and administrators about their PBIS system to identify effective PBIS strategies.

Chapter Four: Results

The purpose of this study was to determine if a relationship existed between academic achievement and office disciplinary referrals (ODR) in high poverty Positive Behavioral Interventions and Supports (PBIS) elementary schools. More specific, the researcher collected data from high poverty elementary schools in North St. Louis County that had implemented a PBIS program for at least one year. The researcher collected academic achievement data and school-wide ODR data to determine if a relationship was present.

In addition, the researcher visited two of the schools that had a high percentage in the Proficiency level or above on the MAP and a high percentage of students in the Primary level (students with fewer than two ODRs). The researcher collected data from a site visit walkthrough observation form and interviewed various faculty and staff in each school.

This chapter reports the findings from a Pearson Product Moment Correlation Coefficient that analyzed the relationship between each school's percentage of students in the Primary level and the percentage of students in the Proficiency level or above on the MAP Communication Arts Exam. Furthermore, this chapter reports the qualitative data results from the site visit walkthrough form and interviews.

Quantitative Results

MAP data for all schools in Central School District was collected from the MODESE website. The district sent the researcher an electronic spreadsheet of the Primary level data for comparison. Table 7 illustrates a comparison of each school's Primary level and Proficiency level or above.

Table 7

Comparison of Schools' Primary Levels and MAP Proficiency or Above Levels

School	Percentage of Students in the Primary level	Percentage of students in the Proficiency level or above on the Communication Arts MAP
Franklin	98.2	63.3
Jackson	97.5	57.9
Madison	95.7	47.8
Schultz	93.5	41.3
Harrison	95.5	40.7
Tyler	94.1	39
Roosevelt	94.8	38.8
Washington	95.7	37.7
Jefferson	95.4	36
Charleston	97.4	34.4
Addison	90.7	34.4
Johnson	89.7	33.2
Lincoln	96.6	33.1
Kennedy	98.1	30.6
Regan	92.2	28.8
Grant	94.9	28.3
Clinton	92.3	24.5
Average	94.8	38.2

Note. From MODESE (n.d.) and data collected from Central School District.

Site Visit Walkthrough Observations

Table 8 and Table 9 represent the observations from the site visit walkthroughs. In addition to the information noted on the site evaluation form, both schools displayed posters, bulletin boards, and interactive classroom signs that showed evidence of PBIS

ownership. For example, Franklin Elementary had painted signs throughout the school (Appendix E).

Site Visit Interviews

During each site visit, the researcher conduced interviews with teachers, staff, and the building principal (Appendix C). The interviews consisted of PBIS members and non-PBIS members in order to gain a broad perspective of the school's systems. The principal of the school selected the people who were interviewed. Table 8 and Table 9 represent the results from the site visit walkthrough for Franklin Elementary and Schultz Elementary, and Table 10 and Table 11 compare the participants that were interviewed.

Table 8

Schultz Elementary School Site Visit Walkthrough Observation Form Summary

Non-Classroom Systems

Mark the following locations where **Expectation Posters** were visible:

x	*Hallways*		*Main Office*	*x*	*Cafeteria*
x	*Library*	*x*	*Gym/Playground*		*Other:*_____

Mark the following locations where **Rules/Procedures Posters** were visible:

	Hallways	*x*	*Main Office*		*Cafeteria*
x	*Library*		*Gym/Playground*		*Other:*_____

Classroom Systems

Visit 3 classrooms in 3 different grade levels**:**

Question	Number
How many classrooms had school-wide expectations posted?	2 out of 3
How many classrooms had classroom expectations or procedures posted?	2 out of 3
How many classrooms had evidence of expectations being taught in classroom (posters, student work, pictures, etc.)?	2 out of 3

Note. Created for the purpose of this study.

Table 9

Franklin Elementary School Site Visit Walkthrough Observation Form Summary

Non-Classroom Systems

Mark the following locations where **Expectation Posters** were visible:

x	*Hallways*		*Main Office*		*Cafeteria*
	Library	*x*	*Gym/Playground*		*Other:*_____

Mark the following locations where **Rules/Procedures Posters** were visible:

	Hallways		*Main Office*		*Cafeteria*
x	*Library*		*Gym/Playground*		*Other:*_____

Classroom Systems

Visit 3 classrooms in 3 different grade levels**:**

Question	Number
How many classrooms had school wide expectations posted?	0 out of 3
How many classrooms had classroom expectations or procedures posted?	2 out of 3
How many classrooms had evidence of expectations being taught in classroom (posters, student work, pictures, etc.)?	0 out of 3

Note. Created for the purpose of this study.

Table 10

Site Visit Interviews from Schultz Elementary School

	Current Role	**Years at School**	**Years of PBIS Implementation**
Participant A	Kindergarten Teacher	12	8

Participant B	Library Media Specialist and PBIS Coach	12	8
Participant C	Principal	12	12

Note. Participants from Schultz Elementary School.

Table 11

Site Visit Interviews from Franklin Elementary School

	Current role	**Years at School**	**Years of PBIS Implementation**
Participant A	Special Education Teacher and PBIS Coach	31	12
Participant B	Counselor	5	10
Participant C	Principal	7	12

Note. Participants from Franklin Elementary School.

Quantitative Data Analysis

Hypothesis. High-poverty PBIS elementary schools have a relationship between the percentage of students with fewer than two office referrals and the percentage of students at the Proficiency level or above on the MAP Communication Arts Exam.

Null Hypothesis. High-poverty PBIS elementary schools do not have a relationship between the percentage of students with fewer than two office referrals and the percentage of students at the Proficiency level on the MAP Communication Arts Exam. The data (Appendix D) supports the hypothesis that there is a moderately positive, significant relationship ($r = 0.485$; r critical $= 0.482$; $p = 0.048018$; $\alpha = .05$)

between the Primary percentage and MAP proficiency percentage. At the 95% confidence level, 23.6% of the variation in MAP Proficiency is related to the Primary level.

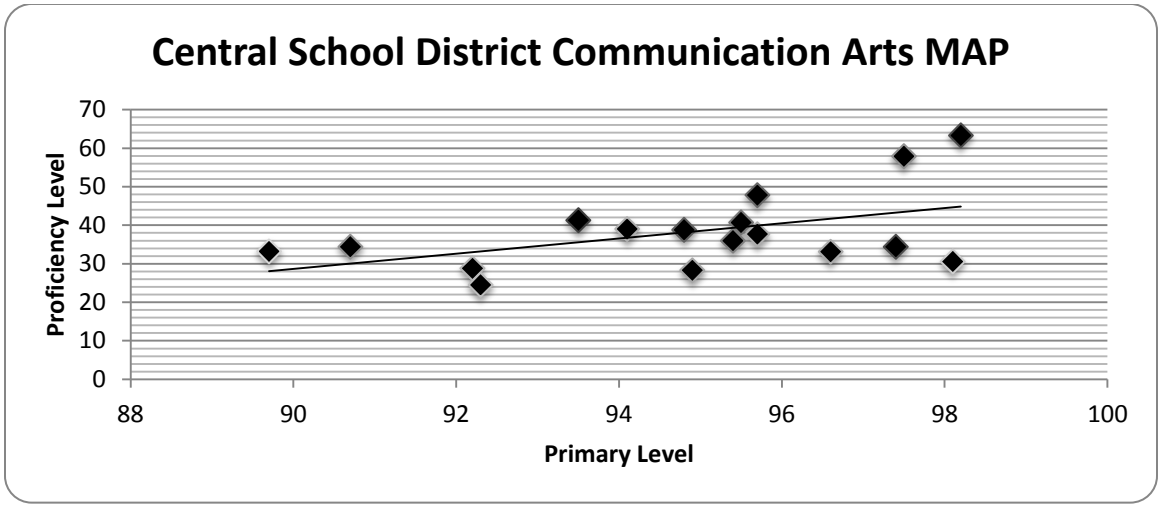

Figure 3. Representation of comparison of Primary level to Proficiency levels for Central School District Elementary Schools

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Qualitative Data Analysis

Non-classroom systems observations. Schultz Elementary School and Franklin Elementary School have obvious signs of PBIS implementation in the school. When students enter the school, they are greeted with the school-wide expectations via a sign or bulletin board. Both schools displayed PBIS posters in high-traffic areas such as the hallways and library. In fact, in most non-classroom settings, PBIS posters or expectations were posted. Every non-classroom location in Schultz Elementary had expectation posters or rules and procedures posters, while some locations in Franklin

Elementary did not show physical recognition of PBIS. Particular areas in which expectations were not posted at Franklin Elementary included the office and cafeteria.

Classroom systems observation. In addition to non-classroom locations, Schultz Elementary School displayed more classroom evidence of PBIS compared to Franklin Elementary School. Out of the three classrooms the researcher visited at Franklin Elementary, only two showed evidence of classroom expectations, and none of the classrooms showed school-wide expectations or evidence of PBIS. None of the classrooms exhibited student work from PBIS lessons or evidence of school-wide positive recognition programs. Regarding posted materials, the most noticeable observation for both schools was classroom expectations, even though these may have had no official part of the PBIS system. The researcher did not count classroom rules as expectations or procedures. For example, if a classroom had a set of rules such as "no horseplay," "no talking when the teacher is talking," "follow the teacher's directions the first time," and "be kind to others," it was not counted. These set of rules are different than expectations and procedures. Classroom expectations are worded in a positive context, and they should align with the school's universal expectations. They are not a set of "dos and don'ts." Procedures are similar to expectations in that they should align with the school's universal expectations. Classroom procedures consisted of directions for how students may enter the classroom or turn in their completed work. In summary, Schultz Elementary School had more physical PBIS evidence inside and outside of the classrooms compared to Franklin Elementary School.

School-wide systems observations. In addition to physical signs and posters, the researcher made anecdotal observations that showed evidence of PBIS in the schools.

This included the physical atmosphere, school beautification, interactions between adults and students, and any PBIS language that was heard. Both Schultz Elementary School and Franklin Elementary School had clean floors in the hallways, but Franklin Elementary had more landscaping and less weeds in the front of the school. The lawn of Schultz Elementary had old railroad ties falling out of place and landscaping that was overgrown with weeds, with little signs of maintenance on the outside of the school. Students at both schools walked orderly and quietly while they passed from one location to the next within the hallways, or when they were waiting to use the restroom. At Franklin Elementary School, one teacher discussed the school expectations of hallway behavior as it relates to safety, one of the school's universal school-wide expectations.

The researcher heard many teachers using the school-wide universal expectations inside and outside of the classroom at both schools. At Schultz Elementary, the principal was able to change her tone frequently when she was talking to different students and adults. For example, when she was conducting the interview, several students visited her for various reasons from positive recognitions to behavioral consequences. She went from speaking very professionally and articulately to becoming more approachable and kind while talking to a student who had done something well. When a student arrived in her office to be punished for stealing another student's phone, she became authoritative and used more body language. With both students, she was able to relate the instances to the school-wide universal expectations in a caring and kind voice. On the other hand, the researcher observed more negative interactions between teachers and students as compared to Franklin Elementary School. For example, the researcher observed one

teacher yelling at a class to quiet down, and another teacher yelled across the classroom, "Little girl, do you hear my voice?" after she repeated her directions to a student.

As stated, Schultz Elementary School and Franklin Elementary School demonstrated ample evidence of PBIS systems, but both schools had more observable evidence in the primary grades (K–3) as compared to the intermediate grades (4–6). For example, almost every primary grade had positive recognition programs in place to recognize students for positive behaviors. One positive recognition system was called "Stepping Up." In this system, every student's name was written on a footprint and when students were recognized for following the classroom and school-wide expectations, they were to move their footprint up the chart. On the contrary, almost every classroom in the intermediate grades displayed negative behavior charts or bulletin boards. For example, a teacher created a chart that had every student listed on a magnet and students would move their magnet to different sections on the board if they were not following the rules. If students moved their magnet from the warning section to the "bad behavior" section, the students would face a consequence, and every other student would know which students had consequences.

In addition to systems inside the school, both schools had a website linked from the Central School District main page. The Franklin Elementary page had an electronic student handbook, PTO page, electronic newsletter, links to teacher web pages, and an up-to-date calendar. Schultz Elementary had minimal information, no student handbook, many broken links or pages under construction, and a calendar that was not up-to-date. Neither of the schools had evidence of PBIS on the website except on page 6 of the Franklin Elementary School student handbook (Appendix 6).

Site visit interviews. The following list is an analysis of the six interviews conducted at Schultz Elementary School and Franklin Elementary School. Each educator was given the questions at the time of the interview, and answers were recorded for data collection. The following answers are a shared collection of successful PBIS strategies.

1. *What is your current role?* The researcher interviewed three educators at each school. The principals selected which educators would participate, but they were given the direction of selecting one administrator, one member of the PBIS team, and one non-classroom teacher. Schultz Elementary selected their building principal, Kindergarten teacher, and library media specialist, who currently served as the PBIS coach. Franklin Elementary selected the building principal, counselor, and special education teacher, who currently served as the PBIS coach.
2. *How many years have you been at this school?* The educators at Schultz Elementary averaged 11.3 years and the educators at Franklin Elementary averaged 14.3 years. The special education teacher at Franklin Elementary had been teaching for 31 years.
3. *How long has this school been implementing PBIS?* The educators at each school gave inconsistent answers. At Schultz Elementary, two of the teachers believed the school implemented the PBIS system 8 years ago, but the principal believed the program had been in place for 12 years. At Franklin Elementary, the principal and special education teacher believed the school implemented the PBIS system 12 years ago, but the counselor believed the program had only been in place for 10 years.

4. *What role does the PBIS team have in this school?* All educators had similar responses to this question. They all agreed that the PBIS team shares and collects ODR data and shares it with the staff at faculty meetings. In addition, they all agreed that the team is responsible for creating incentives for students who display positive behaviors and follow the school-wide universal expectations. Some educators agreed that the PBIS team is responsible for providing in-service professional development for the other educators in the building. Only a few educators claimed the PBIS team is responsible for creating the school-wide universal expectations.
5. *Who is on the PBIS team (not names but roles)?* Participants from both schools gave similar responses to this question. All the educators agreed that their PBIS team consists of one administrator, one teacher from each grade level, one Special School District teacher, and at least one specialist (PE, music, or art) teacher. Neither of the schools had parental or community involvement on their teams. Schultz Elementary School did have a parent on the initial planning team when they developed the school-wide universal expectations.
6. *How often does the PBIS team or administrator share data with the staff?* This question produced inconsistent results, but all educators agreed their PBIS team or administrator did not share data enough with their staff. The principal at Schultz Elementary explained that looking at school-wide ODR data is very powerful, but that the team has not come up with a systematic process for looking at ODR data like the one they use for data on students' reading abilities. The special education teacher at Franklin Elementary agrees, claiming that the school has focused more

of its data analysis on reading achievement. Nonetheless, almost all educators agreed that the PBIS team itself looks at the data frequently, though it has not created a routine for sharing the data with the rest of the school.

7. *How does the PBIS team use data to make decisions?* All educators agreed that their PBIS team uses data to make decisions. They agreed that the team first looks at the overall number of ODRs per grade level and by location. This helps the team determine what systems need to be in place in specific areas. For example, Franklin Elementary School is focusing on bus behavior because staff has seen frequent ODRs from the bus location as defined by the ODR form. In addition, each PBIS team uses data to look for "frequent flyers" or students with multiple ODRs. After the team determines which students have frequent ODRs, it can make better decisions based on each individual student's needs. For example, Franklin Elementary School will look at the frequent flyer list and determine which students may benefit from the Check and Connect program wherein students check in and check out with an adult every day.
8. *What suggestions would you have for schools that are starting a PBIS system?* This question also sparked a variety of responses, but participants all agreed that stakeholder buy-in is one of the most important things a school must have to implement an effective PBIS system. The Kindergarten teacher and library media specialist at Schultz shared that teachers in the primary grades have bought into the PBIS system and have seen significantly positive results, but the intermediate grades have not bought into PBIS. The educators explained that intermediate teachers believe that teachers should not have to teach lessons on the school-wide

universal expectations and students should know how to behave. PBIS is a culture shift for many teachers because it affects their mental models on how to provide education for students. The principal at Schultz also suggested creating a universal PBIS language to use throughout the school. This means that all adults would be using the same language and terminology for the school expectations. The principal at Franklin agreed and also suggested that PBIS teams should take time to celebrate success, provide high-quality professional development that is differentiated, and share how similar schools have found success in implementing an effective PBIS team and system in their school.

9. *How has PBIS affected your school culture?* All educators agreed that PBIS has helped to create a positive school culture for students and adults. Students enjoy coming to school and have a sense of belongingness and safety. The educators at Schultz Elementary agree that PBIS has made school a more enjoyable place for students, and that the adults now have a foundation for how they will help their students develop. The Kindergarten teacher stated that their school now believes and acts on the phrase "it takes a village to raise a child." When the researcher was leaving the school and thanking the secretary, she validated this by saying they are proud of their school, they love their students, and they treat them like their own. The counselor at Franklin Elementary believes the PBIS system has played an intricate role in creating a healthy learning environment for all students, because it has helped decrease unwanted behaviors. The principal further explains that PBIS has helped decrease ODRs so teachers can now focus more on

academic rigor instead of on correcting problematic behaviors that may lead to an ODR and cause the student to spend time in the office rather than on learning.

10. *How has PBIS affected instruction and student learning?* All educators agreed that PBIS has made an impact on instruction and student learning because students know, understand, and practice appropriate behaviors in and out of the classroom. Classrooms are more orderly and less disruptive. The result is that teachers have fewer distractions and can focus more on academic rigor. The principal at Schultz Elementary shared a story about observing a teacher before PBIS was implemented in the teacher's classroom. She claims she observed a teacher spend over 20 minutes of instructional time to redirect students. She went on to explain that their school now tries to create eight positive interactions to every one negative interaction, because data supports the idea that students need this 8:1 ratio. For example, if a teacher has to redirect a student for making unacceptable choices, this is considered a negative interaction. The teacher must then deliberately find ways to praise or recognize the student for following the school-wide universal and classroom expectations. By creating a positive atmosphere in the classroom, students are more apt to participate and engage in more challenging tasks. Overall, all educators believed that less disruptions increases engagement, which increases academic achievement.
11. *Compare your school before and after implementing PBIS.* Some of the educators were unable to answer this question because they had not been at the school when the team implemented PBIS. The educators who had been present agreed that students are now more engaged in learning and teachers can focus

more on rigorous learning tasks. The principal at Schultz Elementary claimed that teachers are now open to trying new strategies such as cooperative learning and culturally responsive teaching strategies. She claimed that teachers are now risk takers and this is evident in their practice. The principal at Franklin believed this has had a reciprocal effect on behavior in that PBIS has helped decrease unwanted behaviors, which has decreased ODRs and allowed teachers to increase the depth of knowledge (DOK) in their classrooms. As they increase the DOK in the classroom, students become more engaged, and when students are more engaged, they are less likely to be disruptive, which in return results in fewer ODRs.

12. *Do you believe PBIS has affected student achievement? If so, in what ways?* Educators agreed that PBIS has affected their academic achievement. As covered by the question above, educators explained that after implementing PBIS, teachers had fewer disruptions in the classroom, so they could focus more on student learning. The educators believed there is a correlation between PBIS implementation and an increase in academic achievement, because now teachers are able to focus on teaching the curriculum. The principal at Schultz Elementary went on further to state that implementing PBIS has decreased the number of out-of-school suspensions.
13. *What other structures in your school have affected student achievement?* The principals at Schultz Elementary and Franklin Elementary stressed the importance of using data for decision making. Data is a great tool for providing feedback about the current structures that are in place. Almost all of the other educators

listed other structures such as Response to Intervention (RtI), data teams, and other school leadership teams, and all of the educators shared that school leadership is one of the most important structures in the school regarding student achievement. The educators claimed that the principal in their schools fully supports PBIS and the PBIS team. For example, if the PBIS team makes a school-wide decision to change an existing structure, the principal will fully support their decision and will act upon that decision. In addition, the principals are fully involved with the students and practice visibility, instead of spending all of their time in the office. Overall, the educators believe the principals at Schultz Elementary School and Franklin Elementary School have high expectations for all students, teachers, and staff. Another common denominator between Schultz Elementary and Franklin Elementary is the implementation of culturally responsive teaching strategies. Culturally responsive teaching strategies are various cooperative learning and engagement strategies to increase the engagement of all students, particularly minority students and students in poverty.

Summary

High-poverty PBIS elementary schools reflect a relationship between the percentage of students with fewer than two office referrals and the percentage of students at the Proficiency level or above on the MAP Communication Arts Exam. The data supports the hypothesis that there is a significant positive relationship between the Primary percentage and the MAP Proficiency percentage. At the 95% confidence level, 23.6% of the variation in MAP Proficiency is related to the Primary level. Even though

23.6% variation is not the majority amount, this variation may provide insight for high-poverty schools.

The researcher visited Schultz Elementary School and Franklin Elementary School, two high-achieving schools in Central School District to conduct site visits and interviews. In summary, Schultz Elementary School and Franklin Elementary School have implemented an effective PBIS system for over eight years. As compared to the other 17 schools in Central School District, Franklin Elementary had the highest percentage of students in the Proficiency level and above on the MAP Communication Arts exam for the 2008-2009 school year. All schools in Central School District have students on the free/reduced lunch program, and are considered high-poverty schools. Schultz Elementary was the only school in the district that was above the district mean for students in poverty and students in the Proficiency level and above on the MAP Communication Arts exam. Both Schultz Elementary School and Franklin Elementary School have several similarities. For example, both have PBIS teams with multiple stakeholders that have created school-wide expectations and universal language, and use data to make school-wide decisions. In addition, all of the educators interviewed at both schools believed that PBIS has had a positive impact on their school culture and student achievement. The educators at both schools agreed that their team uses data to make decisions, but they also agreed that they do not share the data enough with the entire school, and that they need a systemic process of sharing data. Unfortunately, the educators at both schools also agreed that teacher buy-in was one of the most challenging tasks of implementing a successful PBIS system.

One unintended outcome of this qualitative study was the importance of culturally responsive teaching and leadership at both schools. The educators at both schools all said their building principals are effective leaders and they believe this has had a positive effect on student achievement. The following chapter will discuss the findings.

Chapter Five: Discussion, Conclusion, and Recommendations

The purpose of this study was to analyze high-poverty PBIS schools and determine whether a positive relationship existed between the number of students at the Primary level (percentage of students with fewer than two office disciplinary referrals) and the number of students at the Proficiency level or above on the MAP Communication Arts exam. The investigator identified successful PBIS strategies of academically successful high-poverty PBIS elementary schools by conducting site visits and staff interviews at two academically successful high-poverty PBIS schools.

The researcher investigated Central School District, a high-poverty district in North St. Louis County. More specifically, the researcher analyzed 17 elementary schools and compared their percentage of students at the Primary level and percentage of students at the Proficiency level or above on the MAP. As a qualitative study, the researcher then conducted a site visit and interviews at two high-performing schools to identify successful PBIS strategies.

Quantitative Discussion

The hypothesis of this study was that high-poverty PBIS elementary schools reflect a relationship between their percentage of students with fewer than two office referrals (Primary level) and their percentage of students at the Proficiency level or above on the MAP Communication Arts Exam. The data supported the hypothesis that there was a significant positive relationship between the Primary percentage and the MAP Proficiency percentage. At the 95% confidence level, 23.6% of the variation in MAP proficiency is related to the Primary level. The researcher believes this coefficient of determination is important because 23.6% variation in MAP proficiency in high-poverty

schools is an important contributor to an increase in academic achievement. As the research stated in Chapter Two, poverty is one of the most significant factors that impacts student achievement. High-poverty schools that are trying to increase academic achievement should also consider the importance of ODRs. In the researcher's experience, many schools only focus on academic achievement and only analyze annual state tests to determine how to improve achievement. However, the schools in Central School District have made discipline and positive student behaviors a priority.

Central School District did have two outlier schools that may have skewed the results. Kennedy Elementary School and Charleston Elementary School had a very high percentage of students in the Primary level, but a very low percentage of students in the Proficiency level or above on the MAP (Appendix G). The researcher removed Kennedy Elementary and Charleston Elementary from the Pearson's Correlation Coefficient and determined there was a positive significant relationship with a variation of 44.2%. By removing only two schools from the study, the variation changed from 23.6% to 44.2%. More investigation should be conducted to determine why Kennedy Elementary School and Charleston Elementary School have a high percentage of students in the Primary level and a low percentage of students in the Proficiency level or above on the MAP. The investigator believes the degree of poverty may have had a more significant impact on their academic achievement than the reduction of Office Disciplinary Referrals. In other words, Kennedy Elementary and Charleston Elementary may have great PBIS systems and almost all of the students in these schools have had fewer than two office referrals, but a substantial number of their students are still in poverty and their academic achievement is low. As compared to Franklin Elementary School and Schultz

Elementary School, both of which the investigator visited, they had a higher academic achievement but fewer students in poverty.

Qualitative Discussion

The researcher conducted site visits and interviews at Franklin Elementary School and Schultz Elementary school to identify successful strategies of PBIS schools. Franklin Elementary was selected because it had the highest percentage of students at the Primary level and the highest percentage of student at the Proficiency level or above on the MAP. Therefore, it had implemented a successful PBIS system, with the highest percentage of students with fewer than two ODRs and the highest academic achievement in the district. Schultz Elementary School was not the second-highest academically achieving school or the second-highest school in the Primary level. Rather, Schultz Elementary was selected because it was the only school in the district that was above the district average in two categories. Schultz Elementary was above the district average for students in poverty and students at the Proficiency level or above on the MAP. In other words, Schultz Elementary was above-average for students in poverty as well as for student achievement. This study used high-poverty PBIS schools and the researcher believed the level of poverty may impose limitations on the study. Therefore, the researcher sought to explain why Schultz Elementary was high-poverty yet was performing higher than most of the schools in Central School District.

The researcher visited both Franklin Elementary School and Schultz Elementary School and discovered many similarities. Both schools exhibited obvious signs that they were PBIS schools. The schools had displays, posters, and paintings on the walls that reminded students of the school-wide expectations. Students in the hallways and

classrooms were orderly and respectful to each other and to the adults in the building. The researcher saw physical evidence that positive behaviors were a priority in the school, to the extent that behaviors were considered more important that academic achievement. There were some signs of academic achievement inside and outside the classrooms, but most of the displays were about the school's behavioral expectations. If physical evidence was the only indicator, the research would illustrate that behaviors were the most important component of the schools.

Within the interviews, all of the participating educators answered the questions in a similar nature. It was obvious to the researcher that the educators at both schools have had the proper PBIS development for them to have agreed upon so many questions. Most likely staff at both schools has experience with the PBIS SET and is accustomed to answering questions about their PBIS system. Each school has a successful PBIS team that frequently uses data to make decisions. As in most PBIS schools, a few teachers never fully support the program and the data shows evidence of their lack of buy-in. Both schools have had several years to refine their systems, and they believe they have a positive school culture. The researcher was surprised that all of the educators who were interviewed stressed the importance of the principal in their building. They all believed that leadership in the school was one of the most important factors for a successful PBIS system. In addition, both schools were aware that they had an academic achievement gap between White students and Black students. In response, both schools have participated in culturally responsive teaching professional development.

At the time of this study both schools believed that PBIS can help increase academic achievement because it ensures that students understand classroom

expectations and allows teachers to focus on student learning instead of student discipline. At the time of this writing, both schools have not met AYP and have an academic gap between White students and Black students. The majority of the students at both Franklin Elementary and Schultz Elementary are Black, but like in most schools in the nation, their White students are performing higher than their Black students.

Conclusion

The research question for this study was, "Can high-poverty PBIS elementary schools in St. Louis County, Missouri increase student academic achievement by implementing effective PBIS systems and increasing the number of students at the Primary level?" The answer is "yes". The hypothesis was that high-poverty PBIS elementary schools reflect a relationship between their percentage of students with fewer than two office referrals and their percentage of students at the Proficiency level or above on the MAP Communication Arts Exam. The results of this study illustrated there was a relationship between office referrals and academic achievement. One of the unique characteristics of this study was its focus on high-poverty schools. There is already a large body of research on PBIS schools and academic achievement, but very little of this research is on high-poverty suburban schools. The researcher hoped to find substantial evidence that implementing an effective PBIS system can increase academic achievement. The researcher believes implementing an effective PBIS system can impact academic achievement, and the results from this study may support that idea, but this research only focused on school-wide data rather than investigating different demographic subgroups or specifically focusing on the individual students in poverty.

The schools that were visited were considered high-achieving, but neither of the schools met Annual Yearly Progress (AYP) as defined by No Child Left Behind (NCLB), because they did not meet expectations for all demographic subgroups. For example, the AYP expectation for 2009 was that 59.2% of students must be at the Proficiency level or above, and in Franklin Elementary, 63.3% of all students were on that level, but not in all demographic subgroups (Appendix H).

This study was an investigation of high-poverty schools, but it used the data from all students even if they were not on the free/reduced lunch plan. In the 2008-2009 school year, Franklin Elementary School and Schultz Elementary School were both above the state average for students on the free/reduced lunch program, but Franklin Elementary only had 49.1% of students on the program and Schultz Elementary had 79.6%. In Franklin Elementary School, 63.3% of all students were at the Proficiency level or above on the MAP, while in Schultz Elementary School only 41.3% of students were at the Proficiency level or above, but Schultz had 30% more students on the free/reduced lunch program. In other words, Franklin Elementary had about 20% more students achieving, but Schultz Elementary had 30% more students in poverty. One could argue that if Schultz had the 30% fewer students in poverty, they may have outperformed Franklin Elementary.

Another purpose of this study was to find schools that have closed the academic achievement gap between White and Black students. There are many academic achievement gaps, but if the gap is only the difference between academic achievement of White and Black students, then Schultz Elementary School has almost accomplished this task. In 2008-2009 41.7% of the White students at Schultz Elementary were at the

Proficiency level or above, and 40.9% of Black students were in the Proficiency level or above (Appendix I). In other words the White and Black students at Schultz Elementary are performing at the same academic level. The researcher believes this is something to celebrate, and Schultz Elementary should be recognized for its accomplishments.

Overall, this researcher believes that Franklin Elementary School and Schultz Elementary School have implemented a very effective PBIS system and have increased academic achievement for most students. For the past three years, students at Franklin Elementary and Schultz Elementary have been increasing their academic achievement, but they are still below AYP expectations for some student population groups (Appendix H & I). This study did discover that there is a relationship between office disciplinary referrals and academic achievement and the interviewees shared successful PBIS strategies at two higher-achieving PBIS schools in the Central School District. Although these two schools are academically progressing, more research should be conducted, because these two schools are still not performing at the state's AYP for all student demographic subgroups. For example, Black students and students on the Free/Reduced Lunch program are not meeting AYP.

Recommendations

Implementing a successful PBIS system in a school can be a challenging task for schools if they do not have the support they need. One recommendation for schools interested in starting a PBIS system is to become fully aware of the time and commitment it will take. One of the most important steps is to create a diverse team of positive teacher leaders. For the program to work, teachers must believe it can help the school to make significant change. All team members do not need to be experts in PBIS research,

but they should all understand the components of a successful PBIS system. The team should all participate in PBIS professional development if available. If PBIS professional development is not available in their region, team members should become very familiar with the PBIS.org website. Teams should pay particularly close attention to the PBIS Road Map, which lays the foundation for a school to start a program. In addition, the PBIS team should visit and read about other schools that have similar demographics and try to model what worked for those schools. The following personal examples are recommendations for teacher leaders and school leaders on how a team can successfully implement a PBIS system and how school leaders play one of the most critical roles in improving a school's culture.

Personal Example of PBIS Implementation

The following example is shared collection of successful PBIS strategies that educators can use to implement a PBIS system in their school. The researcher of this study was the PBIS coach at Harper Middle in the Groves School District from 2006-2008. Groves School District is an established school district in St. Louis County. Similar to most districts, the student population is growing more diverse and student achievement is an area of concern. Harper Middle School is one of two middle schools in Groves School District. Harper Middle was known for excellence in the past, but in recent years it has not met Missouri's Annual Yearly Progress (AYP) standards, student discipline has increased to an extreme, teachers and students have suffered a lack of morale, and the parents have not been involved. At the end of the 2005–2006 school years, Harper Middle School (HMS) had over 5,500 student office referrals. One year later, however, the school had almost 60% fewer. At the end of the 2005–2006 school

year, HMS created a school-wide Positive Behavioral Interventions and Supports (PBIS) team. Positive staff members from every grade level, support staff, secretarial staff, counselors, and parents were selected to lead the new team. A sixth grade teacher leader who was selected to coach the team created detailed agendas, facilitated meetings, analyzed data, shared data with the staff, monitored current systems, and attended district coaches' meetings. A seventh grade teacher was selected to record meeting notes, organize the team's binder, and prepare weekly PBIS lessons. A special education and eighth grade teacher was selected to organize all incentives for the students and staff, and a sixth grade teacher was selected to monitor the agenda, monitor the start and stop time of the meetings, and maintain the focus of discussion.

In addition, the Harper PBIS team established effective team norms. The group agreed to meet every other week, start and end on time, value each other's opinions, maintain confidentiality, and most importantly, stay positive. The team believed that members must always maintain a positive attitude because they were on the forefront of creating a positive school culture. To accomplish this objective in meetings, the team had a routine of sharing positive recognitions about the students, staff, and school at the beginning of every meeting. In fact, the coach made this the first item on every agenda.

Harper Middle also had a PBIS consultant who helped collect student office referral data and met with the coach and administrators. The team analyzed the data at meetings and focused its discussions and decisions based on the data. For example, the team noticed an excessive amount of referrals at dismissal, so it analyzed specific data to help in creating a school-wide system that would take effect for the following year. The team decided to assign separate waiting areas for each grade level before the morning

bell, and the team saw a decrease in morning ODRs. The team also looked for reoccurring themes and planned PBIS lessons for frequent problem behaviors such as horseplay. For the first year of implementation, the team focused on individual students who had frequent referrals, and assigned them a faculty mentor or placed them in support groups that could help them with their problematic behavior.

In addition to discipline data, the team used the data from the PBIS School-wide Evaluation Tool (SET), surveys, and general observations to create an action plan for the year. For example, the team realized from negative conversations in the staff lounge and conversations at after school social gatherings that the school culture was not positive, and a positive recognition program was established immediately. Furthermore, the team analyzed positive referrals called Shining Stars and compared them to the number of student office referrals.

After the team analyzed the data, members shared their findings during whole-school staff meetings. The administrative staff supported PBIS and helped the team by sharing referral data during monthly small group Professional Learning Communities (PLC) meetings or during grade-level meetings. The team also sent the HMS staff weekly Shining Star data to encourage teachers to support the positive recognition program.

Harper Middle made amazing improvements during its first year because members were able to foster change and implement many new school-wide systems. The administrative team fully supported the practice of PBIS and defined HMS as a PBIS school, teachers taught weekly PBIS lessons in classes, and the PBIS team continuously looked for additional ways to teach social skills to students with chronic behavior

problems and to improve school-wide systems. The administrators and PBIS team created weekly lessons and supported the use of common PBIS language throughout the school. The following list is only some of the practices the HMS staff implemented during the first year of PBIS:

- Shining Star program – Student recognition program
- Star Polishers – Ongoing teacher recognition program
- Start of the School Student Guide – PBIS lessons to teach school expectations
- Referral Free Awards – Quarterly awards for students without office referrals
- Weekly PBIS lessons – Weekly PBIS lessons that teachers give every Wednesday during STAR (Students and Teachers Achieving Results) advisory time
- Universal PBIS Language – Common language used by all administrators and teachers when discussing PBIS with students
- After School Activity Procedures – After-school activities and detention procedures the team designed, implemented, and monitors
- PBIS Signs – PBIS signs placed in all classrooms, hallways, gyms, and offices, and in the cafeteria
- Increased Teacher Supervision – Comprehensive supervision schedule and expectations create by the team that are supported by the administrative staff
- Morning Waiting Areas – Holding area to increase supervision and decrease problems, whereas in previous years, students went directly to their classes
- Arrival and Dismissal Procedures – Expectations that students would enter and leave the designated area in a safe and orderly manner

- Bus Dismissal Procedures – Revisions and improvements to the bus procedures the team created after meeting with bus drivers, teachers, parents, and students
- Fifth Grade Transition Program – Field trip attended by future HMS students in which sixth grade teachers and students taught the school expectations
- Dance Procedures – Social behaviors and procedures the team defined and taught to create a safe and orderly environment at these functions
- MCFISK Cafeteria Procedures – "Manners, Clean up, Follow directions, Inside voices, Stay in assigned seat, Keep cafeteria food in the cafeteria"
- RUAVCR Hallway Procedures – "Right side of the hall, Use a hall pass, Appropriate language, Volume down, Class on time, Running not allowed"
- Mentor Program – Partnering of students with chronic behavior problem with staff mentors
- Functional Assessment – Review of the outcomes of these changes, established in the second semester of implementation.

PBIS Leadership Case Study

Harper Middle School provides an excellent example of how a school can successfully implement a PBIS system and drastically reduce ODRs. These drastic changes happened in the 2005–2006 school year, but the school originally started PBIS three years prior. Unfortunately the leadership team did not fully support the initiative and teacher buy-in was low. The program failed and Office Disciplinary Referrals (ODR) did not decrease. The difference was that in 2005, Harper Middle School had new leadership that fully supported the PBIS team. Similar to the transformations in Schultz Elementary School and Franklin Elementary School, buy-in and leadership

played a critical role in fidelity of implementation. For schools to successfully implement an effective PBIS system, school leaders must support the program and should take the role of a transformational leader like Dr. Tim Streicher, the principal at Harper Middle School.

Friedman (2000) described the transformational leader as motivational, inspiring, and influencing change for the good of the whole instead of developing personal interests or goals. Not only is he a transformational leader, he is a servant leader. His vision of serving, empowering others, and building a sense of community are advantageous attributes. Kest (2006) explained that servant leadership is similar to transformational leadership but servant leaders strive to serve the needs of others. Dr. Streicher is a true leadership role model and his attributes of service, visibility, honesty, integrity, vision, modeling, empowerment, appreciation of others, risk-taking, and communication are evident in his environment, daily actions, and practices.

As stated earlier, Harper Middle School was in dire need of change. Before change could take place, the principal spoke to most of the teacher leaders and staff about their personal perspective on the organization and management of the school and the direction in which it was heading. After listening to the diverse viewpoints, he made many changes. His changes were not nearly as significant as the way he communicated the changes. He is a skilled verbal and nonverbal communicator, and more importantly he is an excellent listener. Leaders should use open communication and value the organization as a community, as Dr. Streicher exemplifies. Effective leaders should also give feedback, debate, and develop sound listening skills (Stephenson, 2004).

A sense of morale and belonging had long been lost at Harper Middle School before he arrived. Teachers did not enjoy coming to school, students dreaded school, and parent involvement was nonexistent. One of the principal's first actions was recognizing and appreciating the value of others. Every week he sends school-wide e-mails praising the staff for their hard work and dedication. He is continuously acknowledging and awarding students for following universal expectations. Another way Dr. Streicher shows appreciation for others is by encouraging staff members to positively recognize other staff at their meetings. Tjosvold and Wong (2000) explained that leaders who create positive relationships motivate their staff to work more effectively and solve problems for the organization.

Before the start of the school year, the principal met with the PBIS team to understand what systems were in place. In the past, before and after school, teacher supervision was not required. After meeting with the committee, he took a risk and made an expectation for every teacher to have morning and after-school duty every day. He knew this could cause animosity among the staff, but after the first week, the teachers realized the value of his decision. In addition, he is a pioneer in incorporating new conceptualizations of education within the whole school and within specific grade-level teams. Capowski (1994) described risk-taking as considering alternative solutions, questioning people and assumptions, and not fearing failure.

Through the instructional leader's actions, it is obvious that he enjoys what he is doing. Dr. Streicher is often moving boxes or tables for teachers or even hanging signs around the school to welcome new students. One teacher was ecstatic one year when he walked to her classroom simply to kill a large bug. He always puts the needs of others

before his own personal needs. Russell and Stone (2002) supported the idea that effective leaders serve others, and that the servant leader's fundamental purpose is to serve.

Along with being a servant leader, during the school day the principal is almost always seen in the halls and classrooms rather than in his office. His visibility provides critical supervision, awareness, and respect. Every day Dr. Streicher is in the cafeteria talking to students and modeling positive expectations. Capowski (1994) explained that an important characteristic for effective leaders is practicing visibility and having a personal presence.

An attribute that supports the principal's vision is his honesty and integrity. He is a charismatic professional who enriches the school's morale. Russell and Stone (2002) argued that leaders must have a good character in order for followers to believe in the leader's vision. The most important way of establishing good character is demonstrating honesty. When Dr. Streicher is meeting with teachers he uses that time to the best of his ability. When he facilitates meetings, he is consistently on time and respects the time of others. His respect and integrity are essential characteristics that support his vision and goals.

An important implication of leadership is establishing a vision. Dr. Streicher frequently shares his vision in his daily practices. Stephenson (2004) described the importance of a vision and how it influences employees. Leaders who share their vision in clear, consistent ways keep employees focused on the goals of the organization. Moreover, the leader has an imperative responsibility to share the vision with the organization. Dr. Streicher advocates a philosophy of supporting student learning

through positive relationships with all stakeholders. He believes in providing opportunities that empower students, teachers, parents, and staff. Overall, the principal's vision is to establish a child-centered, nurturing environment where all students are capable of learning.

Dr. Streicher is an excellent instructional leader because he is a master teacher and advocate of professional development. He believes in modeling instructional strategies every time he meets with teachers. According to Russell and Stone (2002), modeling is an important aspect for the leader because it supports and focuses on the leader's vision. The instructional leader's knowledge of instructional strategies and curriculum development are essential tools for tenured and non-tenured teachers. Not only is Dr. Tim a model teacher, he is a role model for future leaders.

Many leaders believe in the concept of group decision-making, but Dr. Streicher puts group decision-making and empowerment into practice. As mentioned earlier, the principal encourages the PBIS team to make its own decisions, and he supports whatever decision the team makes. When important school-wide decisions are in need, he will empower the PBIS team to make a final decision. According to Lambert (2005), high–leadership-capacity schools have principals who value collaboration, share a vision, and do not act as the sole leader but empower many. In 2005, teachers were encouraged to serve on one school committee. He explained that he would rather have everyone serving well in only one committee than only a few people serving in several committees. In essence, Dr. Streicher expressed that he does not want only a few people running the school.

Harper Middle School made drastic improvements in a short time frame. Dr. Streicher's leadership and support for PBIS played a critical role in their improvement. School leaders should model after his actions to create a positive learning environment. Unfortunately, while Harper Middle School, Schultz Elementary School, and Franklin Elementary School have created a positive school culture and decreased ODRs, they still struggle to meet AYP for all students.

Future Study

This study analyzed high-poverty schools that implemented a successful PBIS system. In almost every elementary school in Central School District, 90% or more of the students have fewer than two ODRs. This study did find a relationship between ODRs and academic achievement in high poverty schools. Unfortunately, Central School District is still not meeting AYP as a district average because only 40.4% of the students were Proficient or above while the AYP target for the year of this study was 59.2%. On the other hand, 60% of the White students were Proficient or above, but only 35.3% of Black students were Proficient or above. This study did not analyze separate subgroups, but the population of this study was high poverty schools. That being said, only 32.9% of students on the Free or Reduced Lunch program scored in the Proficiency level or above. Overall, Central School District has an effective PBIS system in place across the district, but all schools students are not meeting AYP and an achievement gap is still evident.

In the future, the researcher recommends future studies by using a backward design approach. This study researched only high poverty PBIS schools to determine if a relationship exists between ODRs and academic achievement. Instead a new study should first identify high poverty schools that have all students meeting AYP, and then

investigate what these schools have in common. For example, the study would share how many ODRs the schools have, what behavioral modification systems are in place, and what other initiatives the schools have done to attribute to their success. The research would have to be conducted outside of Missouri, because at the time of this study, the researcher could not find any high poverty schools that were closing the achievement gap in the state of Missouri. In summary, the researcher recommends analyzing the methods of schools that are closing the achievement gap for all students and share with the educational community the strategies, beliefs, and actions these schools use to close the gap.

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Appendix A: Central School District Compared to Missouri's Average

2008-09 MISSOURI SCHOOL ACCOUNTABILITY REPORT CARD	Missouri	Central School District
Preschool Enrollment	25,636	723
K–12 Enrollment		
Total	892,279	11,955
Asian	1.9%	0.8%
Black	17.8%	78.2%
Hispanic	3.8%	1.3%
Indian	0.4%	0.1%
White	76.1%	19.5%
Attendance	95.1	93.3
Students Eligible for Free or Reduced-Price Lunch		
Percent	43.7%	63.6%
Number	380,376	7,344
Graduation Rate	85	93.5
Dropout Rate		
Total	4.3	4
Asian	2.2	6.5
Black	9.5	4.1
Hispanic	5	5.4
Indian	4.9	0
White	3.1	3.5
Where Our Graduates Go		
Entering a 4-Year College/University	37.1	34.4
Entering a 2-Year College	26.2	41.6
Entering a Post-Secondary (Technical) Institution	2.5	8.3
Placement Rates for Career-Technical Education Students	85.2	85.8

Staffing Ratios		
Students to Classroom Teachers	17	16
Students to Administrators	187	176
Certification Status of Teachers		
Teachers with Regular Certificates	96.5%	99.7%
Temporary or Special Assignment Certificates	1.4%	0.3%
Substitute, Expired, or No Certificate	2.1%	0%
Classes Taught by Highly Qualified Teachers	95.3%	100%
Years of Experience of Professional Staff	12.2	11.9
Professional Staff with Advanced Degrees	53.9	55.6
Average Teacher Salaries		
Average Regular Term Salary	$44,249	$52,061
Average Total Salary	$46,089	$52,627
Average Administrator Salaries	$82,274	$98,850

Note. Retrieved from MODESE (n.d.).

Appendix B: Site Visit Walkthrough Form

PBIS Site Visit Walkthrough | School Name and Date | _____

Non-Classroom Systems

Mark the following locations where **Expectation Posters** were visible:

	Hallways		*Main Office*		*Cafeteria*
	Library		*Gym/Playground*		*Other:*_____

Mark the following locations where **Rules/Procedures Posters** were visible:

	Hallways		*Main Office*		*Cafeteria*
	Library		*Gym/Playground*		*Other:*_____

Classroom Systems

Visit 3 classrooms in 3 different grade levels**:**

Question	Tally
How many classrooms had school-wide expectations posted?	
How many classrooms had classroom expectations or procedures posted?	
How many classrooms had evidence of expectations being taught in the classroom (posters, student work, pictures, etc.)?	

School-Wide Systems

Describe other evidence (inside and outside) that shows this is a PBIS school.

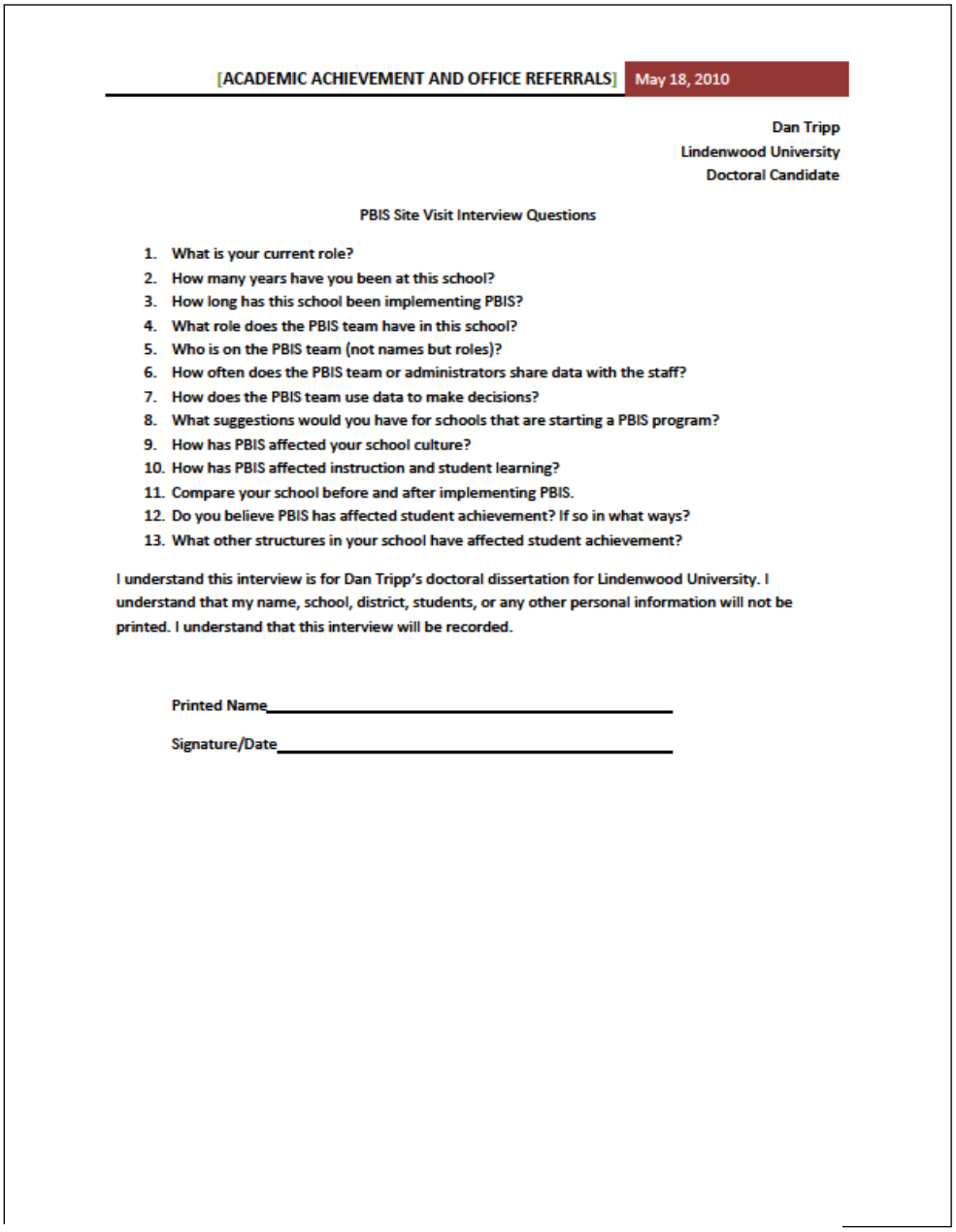
Describe the physical atmosphere and beautification of the school.

Describe the interactions between teachers and students and any PBIS language that is heard.

Additional Observations:

Note. Created by the investigator of this study.

Appendix C: Site Visit Question and Signature Page



[ACADEMIC ACHIEVEMENT AND OFFICE REFERRALS] May 18, 2010

Dan Tripp
Lindenwood University
Doctoral Candidate

PBIS Site Visit Interview Questions

1. What is your current role?
2. How many years have you been at this school?
3. How long has this school been implementing PBIS?
4. What role does the PBIS team have in this school?
5. Who is on the PBIS team (not names but roles)?
6. How often does the PBIS team or administrators share data with the staff?
7. How does the PBIS team use data to make decisions?
8. What suggestions would you have for schools that are starting a PBIS program?
9. How has PBIS affected your school culture?
10. How has PBIS affected instruction and student learning?
11. Compare your school before and after implementing PBIS.
12. Do you believe PBIS has affected student achievement? If so in what ways?
13. What other structures in your school have affected student achievement?

I understand this interview is for Dan Tripp's doctoral dissertation for Lindenwood University. I understand that my name, school, district, students, or any other personal information will not be printed. I understand that this interview will be recorded.

Printed Name_____

Signature/Date_____

Note. Created by the investigator of this study.

Appendix D: Regression Statistics

Regression Statistics	
Multiple R	0.485842082
R Square	0.236042529
Adjusted R Square	0.18511203
Standard Error	9.150146725
Observations	17

ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	1	388.032812	388.032812	4.634601	0.048018167
Residual	15	1255.877776	83.72518508		
Total	16	1643.910588			

	Coefficients	*Standard Error*	*t Stat*	*P-value*	*Lower 95%*	*Upper 95%*	*Lower 95.0%*	*Upper 95.0%*
Intercept	148.4121826	86.72230791	1.711349549	0.10761	333.2564055	36.43204038	333.2564055	36.43204038
X Variable 1	1.96787639	0.914095662	2.152812306	0.048018	0.019527616	3.916225164	0.019527616	3.916225164

Note. Created by the investigator of this study

Appendix E: Respectful Sign Painted Above Drinking Fountain at Franklin Elementary School

Appendix F: Franklin School Behavior Pledge

The S.P.R.R.C. Pledge is recited every morning. Please discuss the pledge with your child.

Franklin School

Appendix G: Central School District Elementary Schools

School	Enrollment	Attendance Rate	Free/Reduce Lunch	Primary level	Communication Arts MAP
Franklin	283	95.1	49.1	98.2	63.3
Jackson	381	96	48.7	97.5	57.9
Madison	437	96.6	51.3	95.7	47.8
Schultz	325	94.6	79.6	93.5	41.3
Harrison	414	94.8	62	95.5	40.7
Tyler	368	95.9	51.9	94.1	39
Roosevelt	585	95.6	51.9	94.8	38.8
Washington	232	95.5	62.6	95.7	37.7
Jefferson	288	95.4	84.7	95.4	36
Charleston	344	95.2	65.2	97.4	34.4
Addison	295	93.7	87.5	90.7	34.4
Johnson	457	94.8	80.8	89.7	33.2
Lincoln	296	94.9	63.8	96.6	33.1
Kennedy	201	93.6	84.7	98.1	30.6
Regan	276	93.7	84.2	92.2	28.8
Grant	408	94.8	84.3	94.9	28.3
Clinton	291	93.1	93.7	92.3	24.5
Average	**345.94**	**94.90**	**69.76**	**94.84**	**38.22**

Note. From MODESE (n.d.).

Appendix H: Franklin Elementary - Percentage of Students at the Proficient Level or Above on the Communication Arts MAP

	2007	2008	2009
AYP	**42.9**	**51.0**	**59.2**
School Total	59.2	66.2	63.3
White	73.3	76.2	73.2
Black	46.6	56.7	52.2
Free/Reduced Lunch	54.7	62.5	54.3

Note. From MODESE (n.d.).

Appendix I: Schultz Elementary: Percentage of Students Proficient or Above on the Communication Arts MAP

	2007	**2008**	**2009**
AYP	**42.9**	**51.0**	**59.2**
School Total	31	46.2	41.3
White	30.8	53.8	41.7
Black	30.6	45.1	40.9
Free/Reduced Lunch	27.7	41.2	36.8

Note. From MODESE (n.d.).

Vitae'

Daniel Tripp is a dedicated educator in St. Louis, Missouri. He started the teaching profession because his personal experience with schooling was not a positive experience, and he didn't want other students to have the same experience as he had. It wasn't until he had a high school teacher that could differentiate for him and show him that his capacity to learn was not fixed. Daniel Tripp discovered the power of information technology and how technology can be a tool for learning.

Daniel Tripp earned his undergraduate degree in elementary education with a concentration in early childhood education from Southeast Missouri State University. He earned his masters and Missouri Administrative Certification from Lindenwood University. In addition, Daniel Tripp is a certified eMINTS (enhancing Missouri's Instructional Networking Teaching Strategies) teacher. For the past 12 years Daniel Tripp has taught in an elementary school and middle school, and has served as a staff development facilitator and instructional coach for new teachers to the district.