



# **Panorama for Positive Behavior: Behavior Logging and Behavior Analytics Research Rationale & Logic Model**

Study Type: ESSA Evidence Level IV

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## **Executive Summary**

Panorama Education developed a research rationale and accompanying logic model for Panorama for Positive Behavior Behavior Logging and Behavior Analytics. This report satisfies Level IV requirements (Demonstrates a Rationale) according to the Every Student Succeeds Act (ESSA).<sup>1</sup>

### **Research Rationale and Logic Model**

A research rationale and logic model provides a program roadmap, detailing program inputs, participants reached, program activities, outputs, and outcomes. Moreover, the logic model provides a graphical model detailing how using the product can impact educator practices and student outcomes, while the research rationale summarizes research literature supporting this theory of change. Panorama Education’s Data Science and Applied Research Team developed and revised the Panorama for Positive Behavior Behavior Logging and Behavior Analytics research rationale and accompanying logic model (p. 11).

### **Study Design for Behavior Logging and Behavior Analytics Evaluation**

Panorama Education is currently developing a study design for research to meet ESSA Level III, as informed by the Panorama for Positive Behavior Behavior Logging and Behavior Analytics research rationale and logic model. The proposed study will draw on data from participating districts.

### **Conclusions**

This study provides results to satisfy ESSA evidence requirements for Level IV (Demonstrates a Rationale). Specifically, this report met Level IV standards because it documented (a) a detailed logic model informed by high-quality, peer-reviewed research, and (b) study planning and design underway for an ESSA Level III study.

<sup>1</sup> Level IV indicates that an intervention should include a “well-specified logic model that is informed by research or an evaluation that suggests how the intervention is likely to improve relevant outcomes; and an effort to study the effects of the intervention, that will happen as part of the intervention or is underway elsewhere...” (p. 9, U.S. Department of Education, 2016).

# Table of Contents

|   |    |
|---|----|
| <b>Introduction</b> .....   | 4  |
| <b>Literature Review</b> .....  | 5  |
| <b>Logic Model</b> .....  | 7  |
| <b>Study Design for Behavior Logging and Behavior Analytics Evaluation</b> .....    | 10 |
| <b>Conclusions</b> .....  | 10 |
| <b>Figure 1. Panorama Behavior Logging and Behavior Analytics Logic Model</b> ..... | 11 |
| <b>References</b> .....   | 12 |

## Introduction

Panorama Education engaged in the development and review of Panorama for Positive Behavior Behavior Logging and Behavior Analytics research rationale to satisfy Level IV requirements (Demonstrates a Rationale) according to the Every Student Succeeds Act (ESSA).<sup>2</sup>

As part of its mission to radically improve education for all students, Panorama Education is a national leader in the provision of research-backed products and services to support the use of multi-tiered systems of supports (MTSS) and positive behavior approaches in districts and schools. The Every Student Succeeds Act (2015) defined MTSS as:

...a comprehensive continuum of evidence-based, systemic practices to support a rapid response to students' needs, with regular observation to facilitate data-based instructional decision making.

Likewise, The Center on PBIS (2023) defines positive behavior approaches as an...

...evidence-based, tiered framework for supporting students' behavioral, academic, social, emotional, and mental health... It is a way to create positive, predictable, equitable and safe learning environments where everyone thrives.

MTSS provides educators with a framework for organizing tiered instruction, assessment, and educators' systems and practices so schools can meet students' diverse learning and social-emotional needs. Subsequently, many public school districts have included positive behavior approaches under the umbrella of multifaceted MTSS approaches (Jackson et al., 2021). Furthermore, federal education laws provide mechanisms and funding for implementing these effective frameworks independently or as a cohesive approach.

MTSS and positive behavior approaches are highlighted within ESSA and the Individuals with Disability in Education Act (IDEA), helping to translate research and policy into educator systems and practices. Under the previous two reauthorizations of IDEA, positive behavior approaches have been, what some have called, the federal government's "preferred strategy" for addressing challenging behaviors of students with disabilities (Turnbull et al., 2001, p. 11). In particular, IDEA (2004) strongly encourages educators to use positive behavior approaches when developing individualized education programs (IEPs) for students with behavior challenges that impede their learning or that of others, and when students with disabilities and IEPs face disciplinary action. Within ESSA (2015), school and district administrators are encouraged to use MTSS and positive behavior approaches through specific funding provisions. For example, administrators can use Title II funds for training and supporting teachers and school leaders to develop MTSS and positive behavior instructional programs to effectively teach children with disabilities<sup>3</sup>. Likewise, administrators can use Title IV funds for positive behavior interventions and supports to promote safe and healthy school conditions and student learning.

<sup>2</sup> Level IV indicates that an intervention should include a "well-specified logic model that is informed by research or an evaluation that suggests how the intervention is likely to improve relevant outcomes; and an effort to study the effects of the intervention, that will happen as part of the intervention or is underway elsewhere..." (p. 9, U.S. Department of Education, 2016).

<sup>3</sup> Title II funds can also be used for MTSS K-12 literacy services.

Panorama’s Behavior Logging and Behavior Analytics were designed to support evidence-based MTSS and positive behavior systems and practices. This report has the following objectives to articulate how these tools support effective educator practices and student outcomes:

1. Provide a summary of the research base for Behavior Logging and Behavior Analytics.
2. Develop a logic model to accompany the research rationale.
3. Draft an ESSA level III study design.

## Literature Review

The design of this logic model was guided by previous research examining how behavior incident observation, documentation, and analysis can improve effective approaches to MTSS and positive behavior supports. The prior research clarifies how Panorama’s Behavior Logging and Behavior Analytics can support educator practices, which in turn can impact student outcomes. The first two sections of the literature review articulate how these tools can influence educator practices directly and support school-wide positive behavior approaches. The last section of the literature review highlights how district leaders can improve the likelihood that tools are consistently and sustainably used to improve student outcomes.

### **Behavior Logging and Behavior Analytics Supports Classroom Management and Data-Based Decision-Making (DBDM) Best-Practices**

The importance of well-managed classrooms is well known. Prior research has shown that students in well-managed classrooms were more engaged and performed higher on achievement measures (Marzano, 2001). Additionally, teachers in these classrooms tended to (a) have clearly stated rules and procedures, (b) quickly indicate when behavior was appropriate or inappropriate, and (c) use direct and concrete consequences for misbehavior. Tools for reporting and analyzing behavior incidents help school and district leaders clarify what is and is not appropriate behavior, and communicate ways teachers can intervene in the moment challenging behavior occurs.

Teachers, however, do not teach in isolation nor should they be expected to respond to all challenging behaviors alone. More severe, less frequent, behavior incidents require quick administrative responses (e.g., using restorative approaches to respond to physical altercations). Frequent and/or more severe behavior incidents often require more nuanced responses. Behavior incident reports and analytic tools enable administrators and teams to engage in data-based decision making (DBDM) to address behavioral challenges, whether these occur schoolwide (e.g., similar behaviors occur routinely within classrooms, common areas, buses), within particular grade levels or groups of students, or for individual students.

DBDM enables educators to focus on precisely defining challenges, as well as hypothesizing, planning, and implementing solutions once problems are understood in sufficient depth (Deno, 2016). Like many educational innovations, translating research into practice has proven difficult as DBDM routines and practices are inconsistently implemented and many common approaches have not been

researched (Jimerson et al., 2016). Additionally, practices and routines are often abandoned after initial training (Kittelman et al., 2020). Team-Initiated Problem Solving (TIPS) provides a promising model as evaluation studies of TIPS have shown that comprehensive training and support improved the likelihood of (a) using core DBDM practices and routines (Newton et al., 2012; Todd et al., 2011), and (b) creating intervention plans that address underlying academic and behavioral needs and improvements to instructional environments (Horner et al., 2018). In their randomized trial, Horner and colleagues (2018) also documented that schools with teams trained in the TIPS model had fewer out-of-school suspensions as compared to schools in the wait-list control condition. Core DBDM practices include defining problems with precision, hypothesizing underlying root causes (e.g., behavior functions), planning and implementing interventions, and evaluating intervention implementation and outcomes. Team routines help encourage the use of the core practices and include predictable meeting agendas, a stable set of members, and clear roles during meetings.

Panorama’s Behavior Logging and Behavior Analytics enable educators to use classroom management and DBDM best-practices to explicitly encourage positive behavior, which, in turn, supports student learning. Universal and targeted interventions and behavior management approaches that decreased classroom disruptions have been shown to have small to moderate impacts on student achievement (Horner et al., 2009; Stage & Quiroz, 1997). Further, behavioral interventions that target classroom behavior and include elements of reinforcement, cooperation, and behavioral consultation have been shown to be more effective than other approaches (e.g., counseling, social skills training) (Kazdin et al., 1990; Skiba & Casey, 1985). Put more simply, research indicates that teaching behavior universally and with targeted behavior interventions matters.

### **Embedding Behavior Logging and Behavior Analytics in a School-wide Positive Behavior Approach Can Impact Student, Teacher, and School Outcomes**

School-wide positive behavior approaches have impacts on a host of student outcomes. A recent meta-analysis demonstrated that school-wide positive behavior systems and practices—approaches that included behavior logging, management, and DBDM—had an overall large effect on improving behavior and medium-sized effect on academic outcomes measured at the school-level (Lee & Gage, 2020). Many studies, including well-designed randomized experiments, quasi-experiments, and sophisticated correlational analyses, have shown that these combined school-wide positive behavior approaches have reduced the likelihood of office discipline referrals and suspensions (Bradshaw et al., 2010; Freeman et al., 2016; Horner et al., 2009), reduced discipline gaps between African American and white students (Vincent et al., 2011), and reduced teacher reports of bullying (Waasdorp et al., 2012). Likewise, these approaches have resulted in improved school behaviors such as increased on-task behavior (Algozzine & Algozzine, 2007), concentration, social-emotional functioning, prosocial behavior (Bradshaw et al., 2012), and attendance (Freeman et al., 2016).

School-wide approaches can also have positive effects on important teacher and school measures. Some of the same studies previously highlighted and additional analyses have shown that school-wide multi-tier approaches to behavior have resulted in improved perceptions of school safety and academic emphasis (Bradshaw et al., 2009), classroom management (Algozzine & Algozzine, 2007), teacher satisfaction (Richter et al., 2012), teacher efficacy (Bradshaw et al., 2021; Kelm & McIntosh, 2012), decreased teacher burnout (Ross et al., 2012), and improved administrator skills for managing challenging behaviors (Richter et al., 2012).

## **A District-wide Approach to Implementing Behavior Logging and Behavior Analytics Can Increase the Likelihood of Sustained Use and Impact**

Effective use of data tools requires educators to have necessary skills and capacity, and leaders that ensure systems and policies are in place. More specifically, district implementation approaches can influence both the initial uptake and sustainability of using Behavior Logging and Behavior Analytics within MTSS and positive behavior approaches. A growing body of literature on multi-tiered positive behavior approaches has documented that schools and districts require several years to implement them with fidelity (Kittelman et al., 2019; Schaper et al., 2016), and schools often abandon efforts before effects can take hold (McIntosh et al., 2016; Nese et al., 2016). Prior research supports the conclusion that districts that build school-level capacity for DBDM (McIntosh et al., 2018; Mercer et al., 2014) across multiple campuses simultaneously (McIntosh et al., 2016, 2018) are more likely to reach full implementation and sustain high fidelity a few years later.

Building capacity to use reporting and analytic tools for DBDM early in the implementation process also matters. Efficient use of DBDM during early initiative adoption and installation has been shown to help increase the likelihood that positive behavior systems and practices will be sustained years after initial implementation (Coffey & Horner, 2012; McIntosh et al., 2018; Mercer et al., 2014). In particular, administrator use of data for improving initiative implementation during these early stages can increase the likelihood that positive behavior systems and practices will endure over several years (Coffey & Horner, 2012). Sustaining practices is not only important from a resource management perspective, but also may moderate student impacts. For example, Bradshaw and colleagues (2012) found that the effects of schoolwide positive behavior approaches were stronger for children who were first exposed to systems and practices in kindergarten as compared to later in their elementary school career, suggesting that multiple years of exposure to these environments can be more beneficial to student outcomes.

In sum, the previous three sections highlighted previous research on how using Panorama's Behavior Logging and Behavior Analytics can support educator practices and school-wide positive behavior approaches, which, in turn, can help improve student outcomes. The prior research also illuminates key actions district leaders can take to help ensure successful implementation.

### **Logic Model**

A logic model is the roadmap for a program or product. It identifies how the program aims to influence educators and learners, and transform inputs into measurable actions that lead to expected outcomes. Despite some variations, a logic model typically has five main components: inputs, participants, activities, outputs, and outcomes (see Table 1).

In line with the components in Table 1, Panorama reviewed its Behavior Logging and Behavior Analytics products and services to develop a draft logic model. Members of Panorama's Data Science and Applied Research, Product, and Marketing teams reviewed early drafts and provided feedback that was used to make revisions. The final logic model depicted on page 11 reflects these conversations and revisions.

**Table 1. Logic model core components**

| <b>Component</b>    | <b>Description</b>                  | <b>More Information</b>  |
|---------------------|-------------------------------------|--|
| <b>Inputs</b>       | What we invest                      | What resources are invested and/or required for your product to function effectively in real schools?  |
| <b>Participants</b> | Who we reach                        | Who receives the product or intervention? Who are the key users?   |
| <b>Activities</b>   | What we do                          | What do you do with the resources identified in inputs? What are core/ essential components of your program? What are you delivering to help students/ teachers achieve the program outcomes you identify?   |
| <b>Outputs</b>      | Products of activities              | What are numeric indicators of activities? (e.g., key performance indicators; allows for examining program implementation)   |
| <b>Outcomes</b>     | Short-term, intermediate, long-term | <p>Short-term outcomes are changes in awareness, knowledge, skills, attitudes and aspirations.</p> <p>Intermediate outcomes are changes in behaviors or actions.</p> <p>Long-term outcomes are ultimate impacts or changes in social, economic, civil or environmental conditions.</p> |

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### **Panorama for Positive Behavior Logic Model Components**

Panorama invests in several tools and resources for enabling local positive behavior and MTSS approaches. These tools and resources include:

- Panorama for Positive Behavior including access to the Behavior Logging and Behavior Analytics;
- Panorama Student Success platform that allows educators to review whole-child data, including behavior and academic data, and create and manage group and individual student interventions;
- psychometrically sound student, teacher, and family surveys organized into a range of SEL skills, and classroom and school climate;
- Playbook, a library of research-based and evidence-based lessons, activities, and strategies to support whole-child development, including behavior support strategies and interventions;
- and access to teaching and learning staff who provide professional learning services on all products connected to positive behavior supports and MTSS.



Ultimately, these products aim to improve educator practices and in-turn impact K-12 student outcomes.

Using Panorama's tools and resources, educators and administrators can engage with Panorama in the following activities:

- observe and document challenging behavior incidents;
- manage behavioral records;
- define and analyze behavior challenges alongside whole-child data insights from SEL surveys, as well as academic and attendance data integrated into the Student Success platform;
- develop targeted intervention and support plans to address behavioral needs for students, groups, grade-levels, and entire schools;
- and evaluate the implementation and effectiveness of universal and targeted instructional supports and interventions.

Panorama users can examine the extent to which these key activities have been achieved by examining the following outputs:

- the frequency, type, and severity of behavior incidents;
- quickly ascertain who was involved, where incidents occurred, how often they occur, and the perceived reason why students are engaging in challenging behaviors;
- identify students who may be "at risk" for more serious behavior challenges;
- and when bundled with Panorama Student Success, determine the number of intervention plans that have been created, are up-to-date, and on-track toward performance targets.

If implementation is successful, Panorama users can expect the following short-term and intermediate student outcomes:

- students receive instructional and behavior support from classroom teachers to address less severe and/or infrequent behavioral challenges;
- Students and groups receive targeted interventions and support for common and frequent behavior challenges (e.g., check-in/check-out for persistent disruptive behavior that interferes with classroom learning);
- administrators use routine procedures for handling common more severe but less frequent behavior challenges (e.g., using restorative justice practices to address physical altercations).

For students, educators, administrators, and schools, in the longer term, Panorama users can expect the following outcomes when Behavior Logging and Behavior Analytics are embedded in MTSS and/or schoolwide positive behavior approaches:

- teachers will improve classroom management skills, and observe and document fewer challenging behavior incidents;
- students will experience higher levels of academic engagement, socio-emotional competencies, and, in some instances, improved academic performances;
- administrators, school support staff (e.g., school counselors), and teachers will decrease their use of exclusionary discipline, and improve behavior management and data-based decision-making (DBDM) skills;
- school environments will improve in terms of enhanced perceptions of safety and climate, reduced learning disruptions, decreases in disproportionate disciplinary trends, and happier teachers (e.g., higher perceptions of efficacy and satisfaction, and less burnout).

## **Study Design for Behavior Logging and Behavior Analytics Evaluation**

In order to continue to collect evidence of effectiveness and to investigate the relationships proposed in the logic model, Panorama is developing a research project to assess whether the use of Panorama For Positive Behavior Behavior Logging and Behavior Analytics products is related to the outcomes articulated within the logic model. The proposed study will draw on data from participating districts.

### **Conclusions**

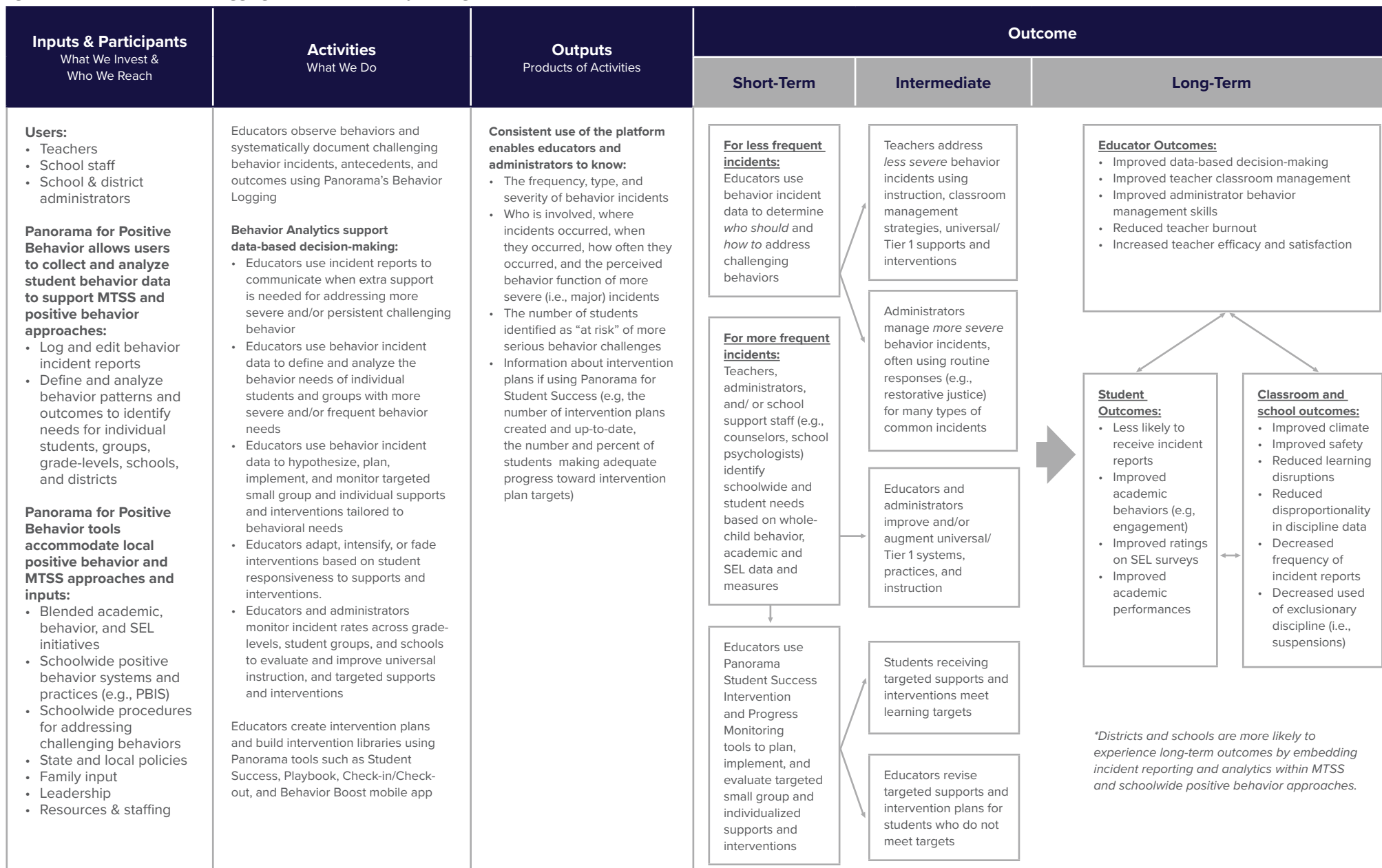
This study satisfies ESSA evidence requirements for Level IV (Promising Evidence). Specifically, this study met the following criteria for Level IV:

- Detailed logic model informed by previous, high-quality research
- Study planning and design is currently underway for an ESSA Level III study

**Purpose Statement:** Educators and administrators often struggle to collect and analyze behavior data to implement a data-informed positive behavior approach. Panorama for Positive Behavior Behavior Logging and Behavior Analytics enable recording and managing behavior, as well as data-based decision-making (DBDM) to equitably meet students’ needs. The tool simplifies documenting challenging behavior and data analysis to improve universal, schoolwide behavior approaches as well as targeted group and individual supports and interventions.



Figure 1. Panorama Behavior Logging and Behavior Analytics Logic Model



## References

- Algozzine, K., & Algozzine, B. (2007). Classroom instructional ecology and school-wide positive behavior support. *Journal of Applied School Psychology, 24*(1), 29–47. [https://doi.org/10.1300/J370v24n01\\_02](https://doi.org/10.1300/J370v24n01_02)
- Bradshaw, C. P., Koth, C. W., Thornton, L. A., & Leaf, P. J. (2009). Altering school climate through School-Wide Positive Behavioral Interventions and Supports: Findings from a group-randomized effectiveness trial. *Prevention Science, 10*(2), 100–115. <https://doi.org/10.1007/s11121-008-0114-9>
- Bradshaw, C. P., Mitchell, M. M., & Leaf, P. J. (2010). Examining the effects of Schoolwide Positive Behavioral Interventions and Supports on student outcomes: Results from a randomized controlled effectiveness trial in elementary schools. *Journal of Positive Behavior Interventions, 12*(3), 133–148. <https://doi.org/10.1177/1098300709334798>
- Bradshaw, C. P., Pas, E. T., Debnam, K. J., & Johnson, S. L. (2021). A randomized controlled trial of MTSS-B in high schools: Improving classroom management to prevent EBDs. *Remedial and Special Education, 42*(1), 44–59. <https://doi.org/10.1177/0741932520966727>
- Bradshaw, C. P., Waasdorp, T. E., & Leaf, P. J. (2012). Effects of School-Wide Positive Behavioral Interventions and Supports on child behavior problems. *Pediatrics, 130*(5), 1136–1145. <https://doi.org/10.1542/peds.2012-0243>
- Center on PBIS. (2023). What is PBIS? Positive Behavioral Interventions and Supports. <https://www.pbis.org/pbis/what-is-pbis>
- Coffey, J. H., & Horner, R. H. (2012). The sustainability of Schoolwide Positive Behavior Interventions and Supports. *Exceptional Children, 78*(4), 407–422. <https://doi.org/10.1177/001440291207800402>
- Deno, S. L. (2016). Data-based decision-making. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of Response to Intervention* (pp. 9–28). Springer US. [https://doi.org/10.1007/978-1-4899-7568-3\\_2](https://doi.org/10.1007/978-1-4899-7568-3_2)
- Every Student Succeeds Act, 20 U.S.C. § 6301 (2015).
- Freeman, J., Simonsen, B., McCoach, D. B., Sugai, G., Lombardi, A., & Horner, R. (2016). Relationship between School-Wide Positive Behavior Interventions and Supports and academic, attendance, and behavior outcomes in high schools. *Journal of Positive Behavior Interventions, 18*(1), 41–51. <https://doi.org/10.1177/1098300715580992>
- Horner, R. H., Newton, J. S., Todd, A. W., Algozzine, B., Algozzine, K., Cusumano, D., & Preston, A. (2018). A randomized waitlist controlled analysis of Team-Initiated Problem Solving professional development and use. *Behavioral Disorders, 43*(4), 444–456. <https://doi.org/10.1177/0198742917745638>

- Horner, R. H., Sugai, G., Smolkowski, K., Eber, L., Nakasato, J., Todd, A. W., & Esperanza, J. (2009). A randomized, wait-list controlled effectiveness trial assessing school-wide positive behavior support in elementary schools. *Journal of Positive Behavior Interventions*, 11(3), 133–144. <https://doi.org/10.1177/1098300709332067>
- Hunt, A., Long, C. & Cavanaugh, S.A. (2023). Panorama Logic Model, Study Type: ESSA Evidence Level IV. Raleigh, NC: LearnPlatform by Instructure.
- Individuals with Disabilities in Education Act, 20 U.S.C. § 1400 (2004).
- Jackson, D., Wolfarth, S., Airhart, K., Bowles, A., & Conner, P. (2021). Integrating social & emotional learning within a multi-tiered system of supports to advance equity: SEL MTSS toolkit for state and district leaders. CCSSO, CASEL, & AIR. <https://753a0706.flowpaper.com/CCSSOSELMTSSToolkit/#page=1>
- Jimerson, S. R., Burns, M. K., & VanDerHeyden, A. M. (2016). From response to intervention to multi-tiered systems of support: Advances in the science and practice of assessment and intervention. In S. R. Jimerson, M. K. Burns, & A. M. VanDerHeyden (Eds.), *Handbook of Response to Intervention* (pp. 1–6). Springer US. [https://doi.org/10.1007/978-1-4899-7568-3\\_1](https://doi.org/10.1007/978-1-4899-7568-3_1)
- Kazdin, A. E., Bass, D., Ayers, W. A., & Rodgers, A. (1990). Empirical and clinical focus of child and adolescent psychotherapy research. *Journal of Consulting and Clinical Psychology*, 58(6), 729–740. <https://doi.org/10.1037/0022-006X.58.6.729>
- Kelm, J. L., & McIntosh, K. (2012). Effects of school-wide positive behavior support on teacher self-efficacy: Teacher self-efficacy and SWPBS. *Psychology in the Schools*, 49(2), 137–147. <https://doi.org/10.1002/pits.20624>
- Kittelman, A., McIntosh, K., & Hoselton, R. (2019). Adoption of PBIS within school districts. *Journal of School Psychology*, 76, 159–167. <https://doi.org/10.1016/j.jsp.2019.03.007>
- Kittelman, A., Strickland-Cohen, M. K., Pinkelman, S. E., & McIntosh, K. (2020). Variables contributing to abandonment and re-adoption of SWPBIS. *Journal of Positive Behavior Interventions*, 22(2), 67–77. <https://doi.org/10.1177/1098300719888748>
- Lee, A., & Gage, N. A. (2020). Updating and expanding systematic reviews and meta-analyses on the effects of school-wide positive behavior interventions and supports. *Psychology in the Schools*, 57(5), 783–804. <https://doi.org/10.1002/pits.22336>
- Marzano, R. J. (2001). A new era of school reform: Going where the research takes us. *Mid-Continent Research for Education and Learning*. <https://eric.ed.gov/?id=ED454255>
- McIntosh, K., Mercer, S. H., Nese, R. N. T., & Ghemraoui, A. (2016). Identifying and predicting distinct patterns of implementation in a school-wide behavior support framework. *Prevention Science*, 17(8), 992–1001. <https://doi.org/10.1007/s11121-016-0700-1>

- McIntosh, K., Mercer, S. H., Nese, R. N. T., Strickland-Cohen, M. K., Kittelman, A., Hoselton, R., & Horner, R. H. (2018). Factors predicting sustained implementation of a universal behavior support framework. *Educational Researcher*, 47(5), 307–316. <https://doi.org/10.3102/0013189X18776975>
- Mercer, S. H., McIntosh, K., Strickland-Cohen, M. K., & Horner, R. H. (2014). Measurement invariance of an instrument assessing sustainability of school-based universal behavior practices. *School Psychology Quarterly*, 29(2), 125–137. <https://doi.org/10.1037/spq0000054>
- Nese, R., McIntosh, K., Nese, J., Hoselton, R., Bloom, J., Johnson, N., Richter, M., Phillips, D., & Ghemraoui, A. (2016). Predicting abandonment of School-wide Positive Behavioral Interventions and Supports. *Behavioral Disorders*, 42(1), 261–270. <https://doi.org/10.17988/BD-15-95.1>
- Newton, J. S., Horner, R. H., Algozzine, B., Todd, A. W., & Algozzine, K. (2012). A randomized wait-list controlled analysis of the implementation integrity of Team-Initiated Problem Solving processes. *Journal of School Psychology*, 50(4), 421–441. <https://doi.org/10.1016/j.jsp.2012.04.002>
- Richter, M. M., Lewis, T. J., & Hagar, J. (2012). The relationship between principal leadership skills and School-Wide Positive Behavior Support: An exploratory study. *Journal of Positive Behavior Interventions*, 14(2), 69–77. <https://doi.org/10.1177/1098300711399097>
- Ross, S. W., Romer, N., & Horner, R. H. (2012). Teacher well-being and the implementation of School-Wide Positive Behavior Interventions and Supports. *Journal of Positive Behavior Interventions*, 14(2), 118–128. <https://doi.org/10.1177/1098300711413820>
- Schaper, A., McIntosh, K., & Hoselton, R. (2016). Within-year fidelity growth of SWPBIS during installation and initial implementation. *School Psychology Quarterly*, 31(3), 358–368. <https://doi.org/10.1037/spq0000125>
- Skiba, R., & Casey, A. (1985). Interventions for behaviorally disordered students: A quantitative review and methodological critique. *Behavioral Disorders*, 10(4), 239–252. <https://doi.org/10.1177/019874298501000409>
- Stage, S. A., & Quiroz, D. R. (1997). A meta-analysis of interventions to decrease disruptive classroom behavior in public education settings. *School Psychology Review*, 26(3), 333–368. <https://doi.org/10.1080/02796015.1997.12085871>
- Todd, A. W., Horner, R. H., Newton, J. S., Algozzine, R. F., Algozzine, K. M., & Frank, J. L. (2011). Effects of Team-Initiated Problem Solving on decision making by school-wide behavior support teams. *Journal of Applied School Psychology*, 27(1), 42–59. <https://doi.org/10.1080/15377903.2011.540510>
- Turnbull, H. R., Wilcox, B. L., Stowe, M., & Turnbull, A. P. (2001). IDEA Requirements for use of PBS: Guidelines for responsible agencies. *Journal of Positive Behavior Interventions*, 3(1), 11–18. <https://doi.org/10.1177/109830070100300103>
- U.S. Department of Education. (2016). Non-regulatory guidance: Using evidence to strengthen education investments. <https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseseinvestment.pdf>

Vincent, C. G., Swain-Bradway, J., Tobin, T. J., & May, S. (2011). Disciplinary referrals for culturally and linguistically diverse students with and without disabilities: Patterns resulting from school-wide positive behavior support. *Exceptionality*, 19(3), 175–190. <https://doi.org/10.1080/09362835.2011.579936>

Waasdorp, T. E., Bradshaw, C. P., & Leaf, P. J. (2012). The impact of Schoolwide Positive Behavioral Interventions and Supports on bullying and peer rejection: A randomized controlled effectiveness trial. *Archives of Pediatrics & Adolescent Medicine*, 166(2), 149. <https://doi.org/10.1001/archpediatrics.2011.755>