HOW SCHOOL TEAMS USE DATA TO MAKE EFFECTIVE DECISIONS:
Team-Initiated Problem Solving (TIPS)

ERIN A. CHAPARRO, ROB HORNER, BOB ALGOZZINE,
JESSICA DAILY, & RHONDA N. T. NESE

April 2022

How School Teams Use Data to Make Effective Decisions: Team-Initiated Problem Solving (TIPS)

Authors   Erin A. Chaparro
Rob Horner
Bob Algozzine

Jessica Daily
Rhonda N. T. Nese

Introduction

School leaders and their leadership teams continuously make decisions to build and sustain successful academic and behavior learning environments for all students. With multiple sources of information available, knowing how to use data efficiently and effectively with limited resources is critical to the successful implementation of schoolwide, classroom, and individual interventions. In this practice guide, we describe a scientifically-based approach for data-based decision-making called Team-Initiated Problem Solving (TIPS) that includes guidance for school-based teams on (a) the foundations needed to run more effective meetings, (b) a process for using data to identify school needs and goals for change as well as for planning practical and effective solutions, and (c) a process for using, monitoring, and adapting solutions.

Key Takeaways

PBIS teams that have used the TIPS process demonstrate improvements with solving challenges and documenting benefits related to school, staff, and student needs. The TIPS process has three parts.

- **Meeting Foundations** provide guidance for organizing teams and conducting more efficient team meetings.

- **Problem Solving** provides guidance for identifying problems, goals for improvement, and solutions which results in more effective meetings.

- **Implementation and Adaptation** provides guidance for applying and adjusting solutions while documenting those changes to improve the decision-making process.

Evidence for Team-Initiated Problem Solving (TIPS)

School-wide positive behavioral interventions and supports (PBIS) teams using the TIPS process have demonstrated improvements in (a) identifying problems early, (b) developing practical and culturally responsive solutions, (c) implementing those solutions with precision, and (d) documenting benefits for students. For example, Newton et al. (2012) randomly assigned 34 Tier 1 PBIS teams to receive the TIPS training in the first cohort or to a wait-list condition. Teams that received the five-hour training and two coached meetings had statistically significant improvements in meeting foundations as well as using data to make decisions, defining problems with precision, establishing solutions, and implementing action plans. In a second randomized-controlled trial of 38 Tier 1 PBIS teams, Horner et al. (2018) demonstrated that
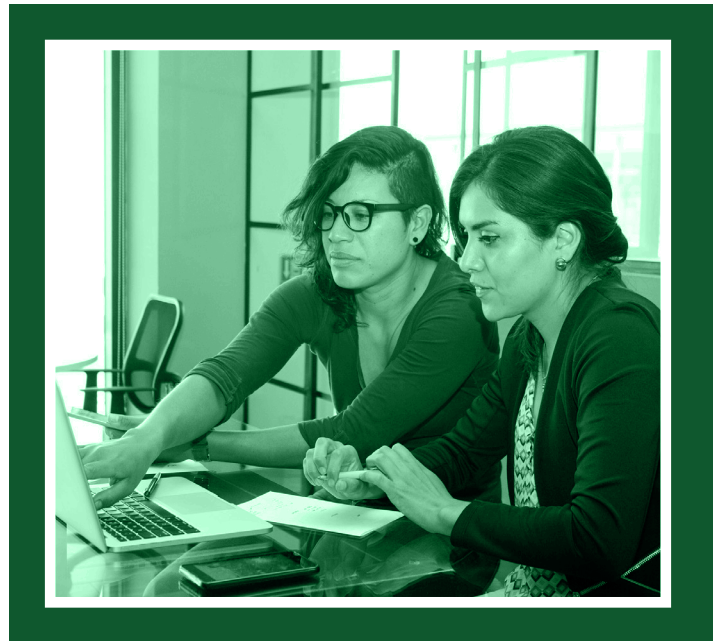
those teams with training and coaching on the TIPS process improved their problem-solving practices. In addition to changing adult behavior, the teams were statistically significantly more likely to document a reduction in office discipline referrals per 100 students than wait-list teams. The TIPS treatment teams also had statistically significant reductions in out-of-school suspensions.

Making Effective Decisions

Team-Initiated Problem Solving (TIPS) is a scientifically-based process (see Figure 1) for data teaming and making decisions. It provides guidance for schoolwide PBIS teams, but intervention coordination teams, student study teams, and other teams can use it as well. TIPS includes recommendations for how to organize and run meetings more efficiently as well as how to use effective decision-making processes. The TIPS process has several parts: (a) Meeting Foundations describe the organization of a team and

the operation of a successful meeting, (b) Problem Solving describes how to identify problems and goals and how to plan solutions for them, and (c) Implementation and Adaptation guides teams as they put solutions in place and make decisions about them.

Meeting Foundations Support Decision Making

Teams are more successful when they are well organized, clear about their purpose, and use data to solve problems. Meeting foundations provide a base and context that help teams use data efficiently and effectively.

Meeting Foundations

Six elements of Meeting Foundations have proven useful for teams. These include a common purpose, an agenda, functional logistics, defined roles and responsibilities, and authority to make decisions.

COMMON PURPOSE

Successful teams have a stated and agreed upon purpose and take into consideration how the team will communicate and work with other complementary teams in the buildings and district. It is important to make sure that teams are not duplicating efforts within a building. A common purpose that is shared across all faculty and staff can help to streamline the number of teams and meetings.

AGENDA FOR PREDICTABLE AND EFFICIENT MEETINGS

The TIPS process includes a general agenda that will work for most data team meetings. The agenda is
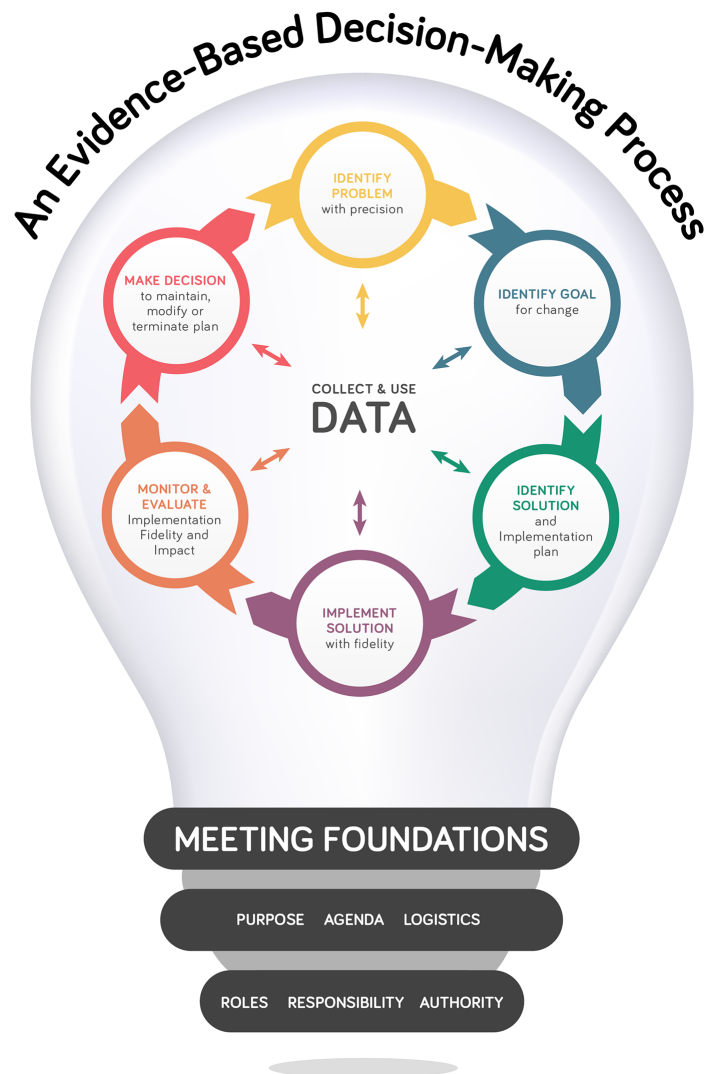

Figure 1. Team-Initiated Problem Solving

sent out in advance, is projected during the meeting, and allows all members of the team to know what is going to be addressed and what decisions will guide future efforts. Team members can shape the agenda and make sure time is spent on the most critical issues facing the school, and all members of the team remain focused on practical "next steps."

PREDICTABLE LOGISTICS

A set location, time, date, and duration of meeting increases the likelihood that team members will be able to attend regularly. If the team meets every other Wednesday in the same place at the same time and the meeting always starts and end on time, members can meet those expectations.

ROLES

Each team should be made up of active participants who are assigned well-defined roles. The roles include a meeting facilitator, a note taker, a data analyst, administrator, as well as the general team members. Several of these roles are familiar to most teams. Two roles in the TIPS process, however, are often unusual for school teams: (a) the administrator is a key member of the team who brings decision-making power and resources, but is NOT the meeting facilitator, and (b) the data analyst is an individual who has the skills and responsibilities needed to review critical information prior to the meeting and who brings this knowledge to the meeting to support efficient and focused team discussions.

RESPONSIBILITIES

Each role has a set of actions they are responsible for before, during, and after the meeting. For example, the note taker is responsible for confirming the agenda before the meeting with the meeting facilitator, taking notes and asking clarification questions during the

Table 1. Video Examples of Teams Using TIPS

Title	Example
Agenda Logistics[1]	Example of a Tier 1 or Universal Leadership Team using the Team Initiated Problem Solving (TIPS) Model to develop and implement Tier 1 systems & interventions for academic and social success (9 mins.)
A Team Using TIPS: Tier 2-3 Coordination Meeting[2]	Example of a Tier 2-3 Coordination Team using the Team Initiated Problem Solving (TIPS) Model to identify & select students in need of Tier 2 & Tier 3 supports (11 mins.)
A Team Using TIPS: Grade Level Meeting[3]	Example of a Grade Level (4th grade) Team using the Team Initiated Problem Solving (TIPS) Model to develop, implement, & monitor academic progress at grade level (14 mins.)

meeting, and emailing a copy of the meeting minutes to all team members after the meeting.

AUTHORITY

During data team meetings, sometimes decisions are made that require the administrative authority of a principal or vice principal. The action plan may require a schedule changed that only an administrator can approve. A team with an available administrator can make decisions and plans more efficiently. Guidance and examples of meeting foundations features are in Table 1 and 2.

Table 2. Examples of Features of Meeting Foundations

Feature	Example
Before Meeting	
Agenda Logistics	• All team members receive documents before the meeting. • Members know location of meeting and have scheduled time reserved on calendar.
During Meeting	
Purpose	Reason for meeting and group norms are reviewed or are on agenda.
Logistics	The meeting starts and ends on time.
Roles & Responsibilities	• The minute taker keeps notes and prompts with questions that keep the agenda progressing. • The data analyst has prepared data to review with the team and can share it in a way that all members can access. • The facilitator ensures that the team has time to cover all agenda items and check on action item completion.
Authority	The present administrator helps to make timely decisions that require shifting of resources.
After Meeting	
Logistics	The meeting minutes are emailed to all members or made accessible to all.
Roles & Responsibilities	• Team members complete the agreed upon tasks. • Facilitator and data analyst set agenda for next meeting.

Lessons Learned from Previous Research on Meeting Foundations

TIPS is supported by research, and some of the findings and best practices provide "what to do" guidance for establishing the meeting foundations that make meetings more effective and problem solving more useful (Horner et al., 2018; Nese et al., 2020; Newton et al., 2012).

• Assign and define roles with expectations for regular attendance so members know what is expected of them before, during, and after the meeting.

• Train members together on the TIPS foundations and then differentiate by role for more in-depth efficiency and effectiveness.

• Have a set schedule and let members know when tasks are due and when future meetings are scheduled.

• Start and end meetings within 10 minutes of scheduled time.

• Make agenda accessible and available before, during, and after the meeting.

• Make minutes accessible and available before, during, and after the meeting.

Decision Making Involves Problem Solving and Implementation and Adaptation Processes

The TIPS meeting foundations serve as the context within which effective decision making occurs. We focus now on the TIPS problem solving and implementation and adaptation processes needed for making effective decisions.

Problem Solving

The TIPS problem-solving process includes three elements: (a) identifying a precise problem, (b) identifying goal for change, and (c) identifying solutions and an implementation plan. Trained teams consistently demonstrate these activities, whereas untrained teams may not.

IDENTIFY PROBLEM WITH PRECISION

Identifying a problem with precision is the first step and includes clarifying what the problem is, who is involved as well as when, where, how often, and why it is occurring. A major message from research on the TIPS process is that teams are more likely to generate practical, effective solutions for their schools if they take the time to identify problems with precision. A "problem" is simply an academic or social outcome that differs from what is expected or desired. TIPS procedures teach teams not only to identify that a problem exists, but to define the problem with a level of precision (who, what, when, where, why, and how often) that will facilitate team decision-making. Taking the time to define problems with precision helps teams move from "problem admiration" to problem-solving.

IDENTIFY GOAL FOR CHANGE

Identifying a goal for change frames a solution as an observable and measurable goal that specifies (a) **what** change will occur, (b) by **when** (date), (c) **where** (in which context or under which conditions), and (c) **how** it will be measured (i.e., specific measure or indicator). Going through the process of defining a goal not only helps a team to build agreement about what they want, but also ensures that a way of measuring success is clearly available.

IDENTIFY SOLUTION AND IMPLEMENTATION PLAN

Identifying a solution is the most complex element of the TIPS process. A useful solution not only employs evidence-based practices for improving behavior, but is practical, efficient, and naturally matched to the culture and organization of the school and matched to the needs of the students involved. Effective solutions typically emphasize strategies for (a) preventing future occurrence of the problem; (b) teaching social, emotional, and behavioral (SEB) skills to make successful alternatives more likely, and (c) systematically responding to behavior to provide explicit feedback, reduce unintentional rewards for problem behavior, and acknowledge positive SEB skills. There is seldom one solution to an academic or social challenge in schools. So, effective use of TIPS problem solving always includes not only selecting options that will be effective but selecting options that (a) match what the school personnel already do well, (b) fit with the skills, values, resources, and administrative support available, and (c) is aligned with the needs, skills, and behavioral function of the targeted student(s).
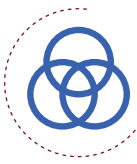
Research on the TIPS problem solving process suggests that solutions developed by a team of skilled people who know their students and their school are more successful than solutions developed by one person alone.

A good solution is only effective if it is implemented well and results in the desired outcomes. The final step in the TIPS problem solving process is to build a formal plan for implementation. An implementation plan operationally describes what will occur, who will be responsible for it, and when, where, and how often it will happen, as well as how (e.g., who, when) fidelity will be monitored. The implementation plan indicates how activities that are done infrequently will occur (i.e., build a communication board; teach new classroom expectations), and sets up a schedule for how regular activities will be done (i.e., use precorrection prior to release for recess). The implementation plan also establishes a schedule for the team to regularly check (a) if they are doing the plan as intended, and (b) if the desired outcomes are being achieved.

Implementation and Adaptation

The TIPS process also involves implementation and on-going adaptation of the selected solution. Even the best efforts and solutions often benefit from continuous review of implementation, and modification or adaptations in response to feedback from students, faculty, staff, and families. Effective problem solving is an iterative process--an on-going opportunity to listen, look, plan, and adjust to an ever-changing school context. The Implementation and Adaptation component of TIPS has three elements.

Coach's Corner

It's critical that each PBIS team beginning to implement the TIPS process is supported by a coach who has been trained. It is recommended that a coach facilitates a team's first two meetings after their initial training. The coach provides prompts and guides the team in engaging with the key practices of the TIPS process. After initial acquisition of the TIPS skills, a coach can support a team by observing using the TIPS Fidelity Checklist and providing the team with feedback. The coach may shift their level of coaching from fully involved to a more passive or remote role as a team becomes more fluent with the TIPS process.

IMPLEMENT SOLUTION WITH FIDELITY

Implementing with fidelity ensures that the solution reaches its fullest impact to improve the problem. This step involves defining the solution features (e.g., prevent, teach, respond, acknowledge) and developing and using a system for gathering, reporting, and sharing data on the extent to which what should be happening is happening.

MONITOR AND EVALUATE IMPLEMENTATION FIDELITY AND IMPACT

Monitoring and evaluating fidelity and impact involves reviewing data that have been collected to document the extent to which the problem has changed, and the goal has been achieved.

MAINTAIN, MODIFY, OR TERMINATE PLAN

The decision-making process recycles with a summative evaluation decision (e.g., improvement

occurred but not to criterion and continuation, adjustment, or replacement is warranted). Guidance and examples of TIPS decision-making process features for Problem Solving and Implementation and Adaptation are in Tables 3 and 4.

Table 3. Examples and Guidance of Features for the TIPS Decision-Making Process

| Feature	Guidance and Example
Identify Problem with Precision	Precise problem statements include (a) what the problem is, (b) who is presenting it, (c) when it is occurring, (d) where it is occurring, (e) how often it is occurring, and (f) why it is occurring. Brian (who) engages in harassment and inappropriate language (what) at 9:15-10:00 and 12:00-12:45 (when) in the classroom (where) at least two times per day (how often) to get peer and adult attention (why).
Identify Goal for Change	Goals include indication of (a) what will change, (b) by how much, and (c) by when. Brian will engage with peers and adults in a respectful and appropriate manner to get peer and adult attention (replacing harassment and inappropriate language), as measured by a teacher's direct behavior ratings by earning 80% of points on check-in check-out (CICO) card during each challenging routines (9:15-10 and 12-12:45) in the classroom per week by Oct 31. Inappropriate behavior will decrease from more than 2 times per day to less than 1 time per week by October 31 as measured by minor or major office discipline referrals.
Identify a Solution and Build Implementation Plan	Solution is selected and implementation plan is developed. A person will be identified to coordinate Brian's CICO program and report to the team on a weekly basis. Brian's teacher and CICO coordinator will review procedures and begin implementation on October 3 for minimum of fifteen days with daily review and boosters as needed. Brian's teacher will have a time and curriculum to review school and classroom expectations with Brian and be specific about appropriate and inappropriate language. The implementation plan will include a time and date when Brian and his parents will receive orientation to the CICO program.
Implement Solution with Fidelity	Solution is implemented as planned with documentation of the extent to which resources are being used and intervention is occurring as intended. Brian participates in CICO with daily and weekly documentation of intervention that was planned.
Monitor and Evaluate Implementation Fidelity and Impact	Fidelity and impact are monitored and evaluated using data and reports included in implementation plan. Brian and his teacher review daily and weekly process and product reports.
Maintain, Modify, or Terminate Plan	Guidelines for maintaining, modifying, and terminating solution are developed and reviewed after targeted intervention phase. Brian's progress is monitored, and data are reviewed to make decision to maintain, modify, or fade the CICO intervention.

Table 4. Tools for Teams Using TIPS

Title	Example
TIPS Readiness Checklist • District[4] • School[5]	Identifies critical district- or school-level system features that will help support initial adoption and ongoing sustainability of TIPS. This checklist can be used as a self-assessment or coaching tool.
TIPS Fidelity Checklist • TIPS-FC Brief (for Tier 1)[6] • TIPS-FC-T2 (for Tiers 2/3)[7]	Identifies core features and practices within the two primary components of TIPS: Meeting Foundations and the Problem-Solving Process. Teams can self-assess their engagement in the practices and/or a coach could use the tool to provide feedback to the team on how well they are engaging in the TIPS practices.
TIPS Meeting Minute Template[8]	Provides a standardized format for documenting the key information and components to support decision making within the team meeting. The minute template follows the sequence of the meeting and includes: general meeting information (including meeting date, time, agenda items), systems overview, problem solving (including a precise problem statement, identified goal and solution, and action steps), organizational/housekeeping items, and an evaluation of the meeting.
Tiered Decision Guidelines[9]	Provides data-based teams across the tiers with specific meeting foundations and thresholds to guide evaluation of individual and student outcomes. The suggested purpose for teams in Tiers 1, 2, and 3 are offered, a basic meeting foundations organizer is included. Most importantly there is a set of thresholds that can guide a team to identify new nominations and progress monitoring guidelines for all tiers.

Lessons Learned from Previous Research on Decision-Making Processes

Findings and best practices from prior research (Horner et al., 2018; Nese et al., 2020; Newton et al., 2012) provide "what to do" guidance for using the evidence-based decision-making processes of TIPS.

- Define problems in specific and observable terms.

- Measure progress and outcomes against observable objectives based on precise problem statements.

- Define, document, and review key features of solutions being implemented.

- Regularly review the importance of intervention fidelity and non-evaluative ways to document it.

- Regularly document implementation fidelity using checklists, observations, and interviews.

- Plan for success or change and reevaluate the data and repeat the process as appropriate.

The practice of meeting to review data and make decisions has long been a feature of most schools. Whether a meeting of the high school science department or a student study team or a schoolwide PBIS team, the fact is that educators are constantly gathering in groups to make decisions that impact students and the school. Any of these teams can use the TIPS meeting foundations. When effective meeting foundations are combined with systematic decision-making processes, teams are most likely to generate changes that benefit students as well as their schools, teachers, and families.
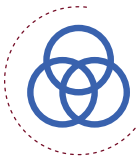
Additional Resources

1. [Listen to Dr. Erin Chaparro speak with Megan Cave from PBISApps about how using TIPS supports teams who meet virtually and in person](#).[10] Cave, M. (2020, September 15). *Making Virtual Meetings Work for Your Team* [Podcast].

2. [Listen to Dr. Erin Chaparro, Dr. Ginny Joseph, and Megan Cave speak about using the TIPS process in the context of Tier 2 decision-making](#).[11] Cave, M. (2021, October 19) *The Who, Why, & How of Tier 2 Decision-Making* [Podcast].

3. Go to [pbis.org](#)[12] and enter "[TIPS](#)[13]" in the Search option.

Embedded Hyperlinks

1. https://www.pbis.org/video/a-team-using-tips-tier-i-coordination-meeting-exploration

2. https://www.pbis.org/video/a-team-using-tips-tier-ii-iii-coordination-meeting

3. https://www.pbis.org/video/a-team-using-tips-grade-level-meeting

4. https://www.pbis.org/resource/tips-district-readiness-checklist

5. https://www.pbis.org/resource/tips-school-readiness-checklist

6. https://www.pbis.org/resource/tips-fidelity-checklist

7. https://www.pbis.org/resource/tips-fidelity-checklist-tier-2-brief

8. https://www.pbis.org/resource/tips-meeting-minutes-template

9. https://www.pbis.org/resource/tiered-decision-guidelines-for-social-behavioral-and-academic-behavior-guidance-for-establishing-data-based-teams-across-the-tiers

10. https://www.pbisapps.org/articles/ep-2-making-virtual-meetings-work-for-your-team

11. https://www.pbisapps.org/articles/ep-13-the-who-why-how-of-tier-2-decision-making

12. https://www.pbis.org

13. https://www.pbis.org/search?query=TIPS

References

Horner, R., Newton, J.S., Todd, A., Algozzine, B., Algozzine, K., Cusumano, D., & Preston, A.I. (2018). A randomized wait-list controlled analysis of Team-Initiated Problem Solving Professional Development and Use. *Behavioral Disorders. 43* (4), 444-456. https://doi.org/10.1177%2F0198742917745638

Nese, R. N. T., Meng, P., Breiner, S., Chaparro, E. A., & Algozzine, B. (2020). Using stakeholder feedback to improve online professional development opportunities. *Journal of Research on Technology in Education, 52*(2), 148-162. https://doi.org/10.1080/15391523.2020.1726233

Newton, J. S., Horner, R. H., Algozzine, B., Todd, A. W., & Algozzine, K. M. (2012). A randomized wait-list controlled analysis of team-initiated problem solving. *Journal of School Psychology, 50,* 421-441. https://doi.org/10.1016/j.jsp.2012.04.002