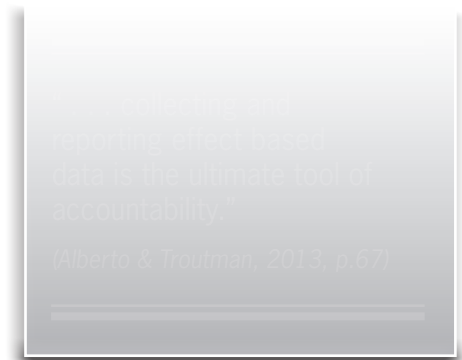# CHAPTER 6: MONITORING STUDENT PROGRESS

Learner Outcomes

At the conclusion of this chapter, you will be able to:

- ▶ Determine method to be used to monitor individual students progress in the BIP (permanent products, Daily Progress Report (DPR)/self-monitoring, observational data)
- ▶ Collect baseline data to determine approximate rate or severity of behavior
- ▶ Use data for decision making

The Missouri Department of Elementary and Secondary Education (DESE) defines an **intervention** as "…**strategies or techniques applied to instruction** in order to **teach** a new skill, **build fluency** in a skill, or **encourage the application** of existing skills to a new situation." They also require an intervention to have: "a **targeted assessment**, planning and data collection, be **research based**, and be **monitored regularly** to determine student growth and to inform instruction."

"… collecting and
reporting effect-based
data is the ultimate tool of
accountability."
(Alberto & Troutman, 2013, p.67)

Monitoring Student Progress

Monitoring student progress is an **essential component** of any behavior plan. Planning for the easiest method to do this should be **determined at the final team meeting prior to implementing** the intervention. While the team is developing support materials associated with the intervention and training staff on the different components, baseline data may be gathered using this chosen method.

Baseline data answers the question "is there a problem?" It determines **current level of functioning**. It is the measuring stick by which intervention data are compared to determine the extent to which a change in the behavior occurred. Baseline data also aid in goal setting. Data collection to progress monitor a student's response to an intervention answers the question "Is this intervention effective?"

Without objective measures, behavior change may be too gradual to determine. Why spend time and energy doing something that does not have the desired effect? The longer a student uses inappropriate behavior, the more likely it will become a habit and harder to extinguish. We would not consider teaching an academic skill without determining current level of functioning and then monitoring the acquisition of the skill. The same reasoning should be applied to social behavioral skills.

Prior to a student starting an intervention, the team should address the following questions:

► What data will be collected to determine student progress in the intervention?

► How will the data be converted into a graph for visual display (i.e. what tool will be used)?

- Graphing data allows the application of a trend line, which is the easiest way to determine if progress is being made, particularly if the data has high variability. In addition, allowing students to graph their own data builds awareness and self-regulation.

► How often will collected data be reviewed?

Whatever method is used to monitor progress, the data should be collected at least weekly. An Excel program may be used to store individual student data or teams may use the Advanced Tier Spreadsheet found on the pbismissouri.org website. Graphs are viewed periodically by the Tier 3 Team and used for making decisions such as; continue intervention as planned, check fidelity of the intervention's implementation, begin to fade, or intensify/modify.

When considering a method to determine student progress, ease of collection should be a primary focus – What is the easiest method which will give the information needed to determine if the student is making adequate progress? Baseline data should be collected using the chosen method so a comparison may be made between data taken prior and after implementation of the intervention.

Methods for Progress Monitoring

SELECTING WHAT TO MONITOR: Records of attendance or minor discipline records are items which are collected by SW-PBS schools and used to help identify students needing additional assistance. If a student was identified for tier 3 supports using those items, a comparison may be made between the records prior to the intervention (baseline) and periodically after the intervention has been implemented. Because those items have low variability, weekly progress is suggested. The number of times a teacher recorded minor discipline problems during the 2 to 5 weeks prior to the intervention (baseline), and then each week after the intervention has been implemented may be graphed with the traditional trend line, goal line, and change line applied.

Attendance, office discipline records, or minor discipline records are all examples of permanent products. **Permanent products are tangible items that result from a behavior.** They may also be termed in the literature as outcome recording data. The concrete results of a behavior are recorded and evaluated which makes this method easy to apply since the samples are durable and not likely to disappear. Additional examples include samples of student work, taping of behavior for later analysis, and grades.

Many behaviors, such as out of area or off task, result in missed assignments. Since teachers maintain records of **completed assignments**, this permanent product could be used for progress monitoring. Again, record the number of weekly assignments completed in the weeks prior to implementing the intervention (baseline) for comparison to the number of weekly assignments completed after the intervention has been implemented.

If a student's behavior results in refusal to complete or poor completion of specific types of assignments, those **samples of student work** could also be collected and compared. These might include writing samples, independent work samples, quizzes, or worksheets.

DAILY PROGRESS REPORT: Student progress may be monitored by creating a daily progress report (DPR) similar to those created for Check-In/Check-Out (CICO) and Small Group Social Skills (SGSS). The replacement behavior is defined (taken from the behavior pathway), the time frame(s) for recording determined, and a scale used to indicate the level the target behavior was exhibited during the specified time. The teacher completes the progress report based on the agreed upon parameters. The scores are totaled and graphed. When determining time frame for recording of behavior, the team should decide if the behavior should be tracked daily, hourly/per period, or only during problematic routines or subjects.

The following is an example of a simple DPR:

Student_____ Behavior_____

Goal _____

3 = 0-1 reminder   2 = 2 reminders   1 = 3+ reminders

	Mon	**Tues**	**Wed**	**Thurs**	**Fri**	**Comments**
Period 1	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 2	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 3	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 4	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 5	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 6	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Period 7	3 2 1	3 2 1	3 2 1	3 2 1	3 2 1	
Today's Points _____ Points Possible _____Today's Percent _____%						

The rating scale to be used may be similar to the one used for CICO or you may wish to collaboratively create a scale for each individual student. If the simple CICO scale will suffice, it is usually a 3 point scale with 1 indicating the student did not perform the desired behavior, a 2 indicating they needed reminders or corrections for them to perform the desired behavior, or a 3 if they performed the desired behavior with little or no reminders.

For the scale to be individualized and expanded to a 5 point scale, the following questions may be used to create the scale (Iovannone, 2012):

1. Think back over the last month. What would you consider to be a "typical day"? How many times would you estimate that (the student) (specific behavior) during the (day or specific routine)? The response provided can be set at Rating 2.
2. Then a "terrible day" would be more than X times (put in the top number team suggested in "1". The response can be set at Rating 1.
3. What would be a "fantastic day" for (the student)? How many times would you like to see the behavior occur to consider it a fantastic day? The response can be set at Rating 5
4. What would be a "good day" (or one less than the 5 rating)? The response would be set at Rating 4.
5. What would be a "so-so day" (slightly below average)? The response would be set at Rating 3.

After the rating scale has been created, the teacher should use it a few times to determine if adjustments are needed. The following is an example of an individualized DPR rating scale:

Student_____

	Date	Date	Date	Date	Date	Date	Date	Date	Date
	5	5	5	5	5	5	5	5	5
	4	4	4	4	4	4	4	4	4
Math class	3	3	3	3	3	3	3	3	3
	2	2	2	2	2	2	2	2	2
	1	1	1	1	1	1	1	1	1

TARGET BEHAVIOR: Appropriate interaction with peers by using nice words, keeping hands and feet to self, asking to use others' things.

PROBLEM BEHAVIOR: Student takes others' things, speaks inappropriately to others, and pushes, hits, or pinches others.

Key: 1 = Required multiple reminders to use nice words, keep hands & feet to self and ask to use others' things.
   2 = Required 4 or 5 reminders to use nice words, keep hands & feet to self and ask to use others' things.
   3 = Required 3 reminders use nice words, keep hands & feet to self and ask to use others' things.
   4 = Required 1 or 2 reminders to use nice words, keep hands & feet to self and ask to use others' things.
   5 = Required no reminders use nice words, keep hands & feet to self and ask to use others' things.

Collecting Observational Data

Observations serve a variety of purposes. An observation is required as part of the FBA process to either confirm a summary statement or collect additional information so an accurate summary statement may be written. When designing individual behavior intervention plans (BIP) it may be necessary to collect observational data if data is not available from other sources. These frequency, duration, or intensity estimates of a behavior may be gathered before an intervention to establish baseline and then after the intervention to be used to progress monitor.

Observational data provides a snapshot of the behavior by observing during periods of time in which the problem behavior is most likely to occur. Observing just 15-20 minutes 3-5 times will allow for a general idea of the frequency, duration, or intensity of the behavior for baseline purposes. Progress monitoring observations should follow the same time frame, context and method so an accurate comparison to baseline may be made.

Steps Required to Conduct an Observation

1. Clearly define problem behavior
2. Determine simplest and most accurate method to collect data
3. Collect data
4. Summarize and/or graph results
5. Use data to make decisions

Step 1. Clearly Define Behavior

The first step in the observation process is to clearly define the problem behavior which will be observed. The behavior must be described specifically so that it is observable and measureable. The description should allow the observer to count how often it occurs, measure how long it lasts, or determine the intensity of the behavior based on a predetermined scale. Examples of defined behavior:

► Off task = student is not looking at teacher when they are speaking, not putting pen to paper if doing seat work, or is not contributing actively if working in a group

► Talking out = student makes comment before first being acknowledged by the teacher

► Aggressive behavior = student pushes, hits, pinches others

Some non-examples of defined behavior:

► Suzy is out of control

► Johnny continually talks out

► Sally is inappropriate with peers

► Jimmy is defiant with teachers

In each of these non-examples, it is not clear what behavior the observer should be looking for. One person's definition of "out of control" may be different from another's.

Step 2. Determine The Simplest And Most Accurate Method To Collect Observational Data

Observational data may be collected in a variety of ways. Determining which method to use is based on the behavior to be observed. This text is covering two broad categories of observational data collection; event based, and time based recording. Some methods require a separate observer from the teacher; others are easy enough for a teacher to do during instruction. For any method, plan on observing for a minimum of 15 minutes for a minimum of 3 separate occasions. The observation should be conducted during a time frame identified as having high probability of the problem behavior occurring, based on the context analysis done during the teacher interview.

After each observation, the data should be converted to a single data point and graphed. If the data after three observations is similar, use those 3 data points as baseline. If the data points are not similar, conduct at least two more observations until a trend emerges. After baseline is graphed, a vertical line is drawn indicating a change. Once the intervention has been implemented, additional observations using the same method at the same time may be used to determine effect of the intervention.

Daily Percent
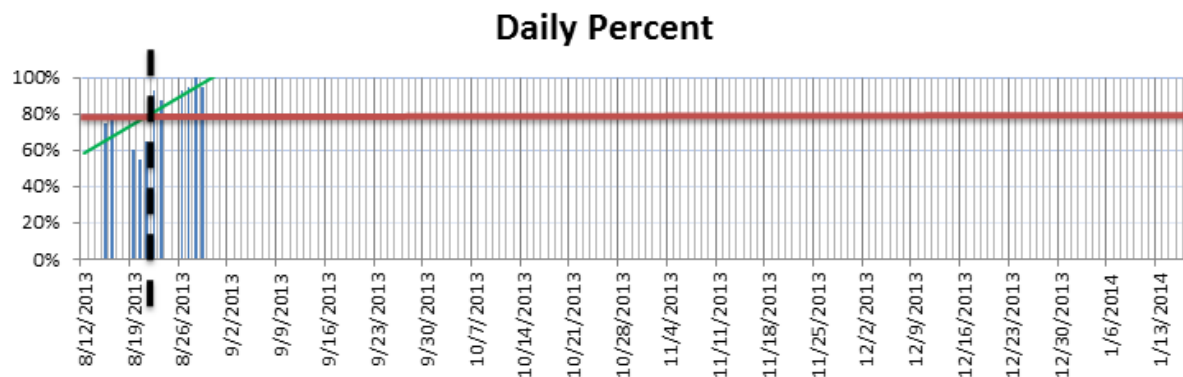
These recording methods will be discussed in detail:

▶ Event Based

- Frequency counts
- Duration recording

▶ Time-based sampling

- Partial interval
- Whole interval
- Momentary interval

Event based recording includes the use of either frequency counts or duration. **Frequency** recording is simply recording each time the behavior occurs during the observational period. A hash mark on a piece

of paper, moving a paper clip from one pocket to another, or any other method of tallying the number of times the behavior occurred during the observational period may be used. It requires the observer to watch the student the entire time frame. While this is one of the simplest methods of recording and therefore can easily be accomplished by the classroom teacher, it is not appropriate for all behaviors.

The behaviors most appropriate for this type of recording are those which have a definite beginning and ending of similar duration with low frequency. Examples of behaviors most appropriate for this method include; talk outs, some aggressive behaviors such as hitting or kicking, and tardy to class. Some non-examples; it would be difficult to count hand flapping as the frequency is so high. Similarly, it would be difficult to count some students anger response because it is unclear when it begins and ends. Out of seat behavior may have large variation in duration which would not necessarily give a clear picture as to the extent of the problem (the student was out of seat only once but it lasted most of the class period).

It is important for each observation to be a standard length of time as the data collected is typically converted to a rate such as 5 times in 15 minutes. Each data point must be standardized to the same amount of time such as #/hr. For this method to be accurate, the observer must be prepared to watch the student continuously during the designated time frame.

Event Recording (Frequency / Behavior Count) Form

Target Person's Name: _____

Person completing this form: _____

Location: _____   **Date(s):** _____

Procedures:
* Write down the behavior that you will be looking for and its definition
* Every time that you are "on the look out" for the behavior:
  ▪ Write down the date
  ▪ Write down the time
  ▪ Make a tally mark every time that the behavior occurs (if the behavior does not occur, make sure to enter "0" – zero)
  ▪ At the end of your observation period, total the number of tally marks for that day (if using a different method to keep track of behavior, enter the total in the Total column) **(This is what you graph)**

Behavior Definition (in specific, observable, measurable terms):
_____
_____

Date	Time	Tally every time that the behavior occurs	Total number of times behavior occurred

Kansas Institute for Positive Behavior Support, 2009

Duration recording is used to determine the **length of time a behavior occurs** during the specified time frame. A chart may be constructed to record when a behavior starts and when it stops or one could simply start and stop a stop-watch each time the behavior occurs. Duration recording is best used for behaviors with varying lengths of duration, such as out of seat, tantrums, or off task behaviors. Data may be converted to a percentage by dividing the amount of time the behavior occurred by the amount of time observed. Again, the conversions should be standard and be represented by a single data point on the

Duration Recording Form

Student's Name: _____ Teacher: _____

Subject/Period: _____ Date(s): _____

Behavior Definition (in <u>specific</u>, <u>observable</u>, <u>measurable</u> terms):

_____

_____

Date	Enter time when the behavior began	Enter time when behavior stopped	Length of time that the behavior lasted

(Tieghi-Benet, et al., 2003)

graph.

Time sampling recording methods provide an approximation of the occurrence of behavior rather than an actual count and may be used for behavior of various lengths. It takes less time and thus is easier for a teacher to conduct the observations while teaching. A timer is required or a method of alerting the observer as to when to record. The total period of observation is divided into shorter segments or intervals; the shorter the segments of time the more accurate the data. It is not uncommon to divide a 20 minute observational period into 10 second intervals. The same chart may be used for partial, whole, or momentary time sampling recording.

Partial interval recording is used for behaviors which are occurring at a low rate. The behavior is recorded if it occurs during any **part** of the time interval. The time interval may be adjusted to reflect the usual or hypothesized amount of time the behavior occurs but should be standardized across all observations. This method tends to over-estimate the occurrence of the behavior. This over-estimation increases as the interval increases.

Whole interval recording is best used for behaviors of long duration. The interval of recording should be set at the shortest observed occurrence of the behavior. In this method, the behavior is recorded only when it has occurred the entire or **whole** interval. This method tends to underestimate the behavior.

Momentary interval recording is used with behaviors that are sporadic but at high rates. The observer uses the timer to indicate when to look at the student to see if the behavior is occurring at that **moment**. This method tends to underestimate behavior as the behavior may occur more than once during an interval; the smaller the interval the more accurate the data.

Behavior Definition (in <u>observable</u> and <u>measurable</u> terms):
_____

_____

Total Observation Time: _____   Length of each interval:_____

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

Date:	Interval #										Total times behavior occurred (√)
	1	2	3	4	5	6	7	8	9	10	
Time:											
√ or X											

When making decisions concerning which method to use, the following flow chart might be helpful:
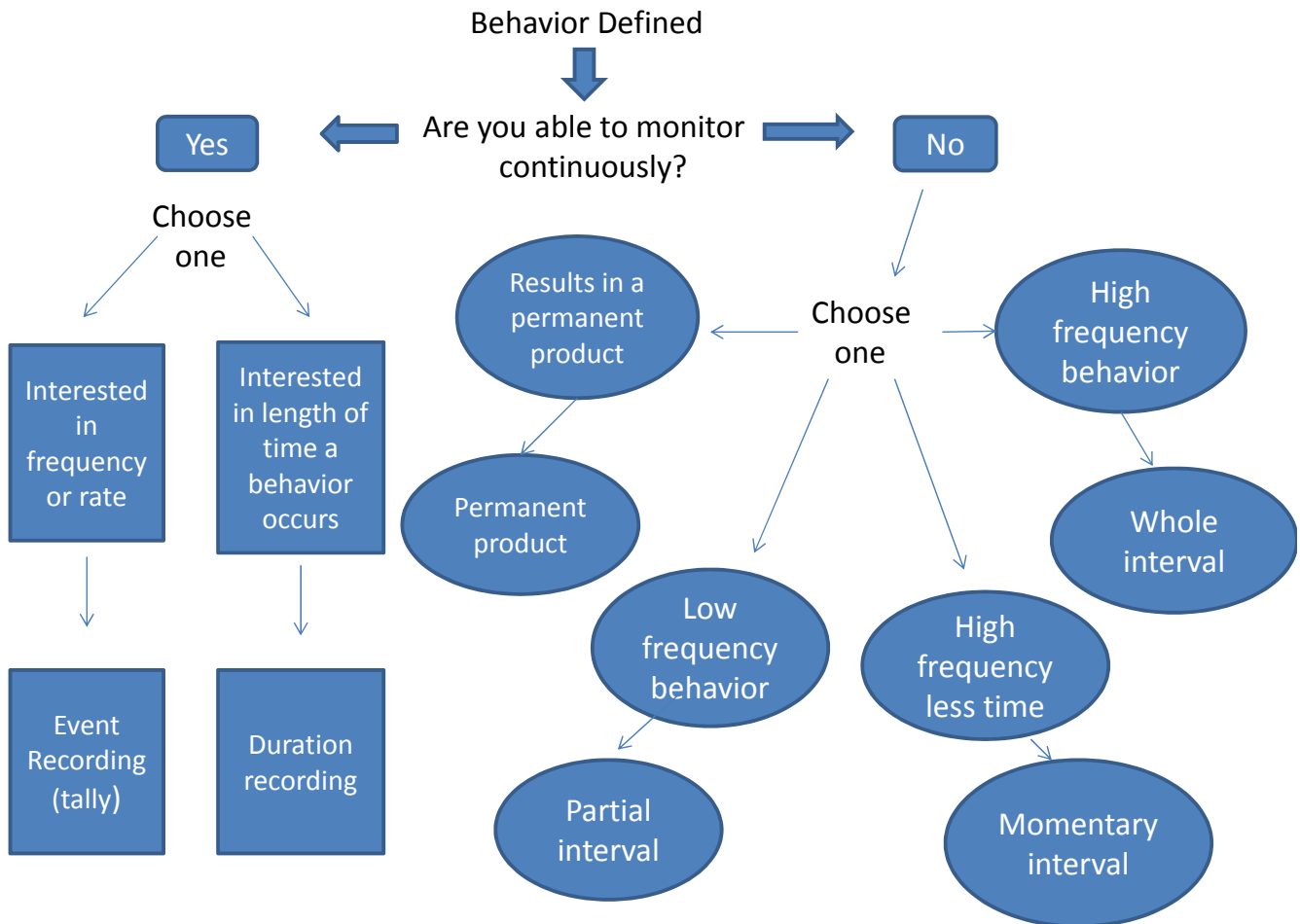
Step 3. Collect data

Once a method has been determined and a time frame identified where the behavior is most likely to occur, it is time to conduct the observations. For baseline, 3 to 5 data points with observations of 15 to 20 minutes is usually adequate. If there is great variability in the data, additional observations may be needed. During the planning phase of the intervention, it should be decided how often data will be collected to monitor the effects after implementation of the BIP. Allowing for the intervention to solidify is recommended before collecting additional observational data but not so long as to allow the student to be unresponsive – usually 1-2 weeks is adequate.

The observer should sit in an area of the room where they are able to see the target student but out of the way of instruction. Do not interact with the students. If asked why you are there, be prepared to make a vague comment such as "I am here to see the great things your teacher is doing". The student should not be aware you are there to observe their behavior. Collect data using the method determined during the planning meeting. If the behavior does not occur, schedule an additional observation. If the behavior still does not occur, consider interviewing teachers again to determine most problematic time. If the behavior is of high intensity but low frequency, the teacher or other adult witness may need to record the observation. Also keep in mind, having an observer in the classroom frequently changes teacher behavior which affects student behavior.

DISCUSSION   Using a student in your building with problematic behavior:

- Define behavior
- Choose a method of recording
- Determine best time of day to observe (how will you determine this?)
- What form will you use?

Step 4. Summarize and/or Graph Results

After baseline has been collected, convert each observation to a single data point on a graph. Draw a vertical line to indicate the end of baseline data and the beginning of data collected after the intervention has been implemented. Each point on the graph should represent the same type of data – actual number, rate, or percentage and should be collected during the same period of time. Intervention data may be collected as soon as the entire BIP has been implemented with fidelity, usually after a week. It should be determined during the planning meeting how often the student will be observed to progress monitor intervention effects.

Graphing allows for easy comparison between baseline and intervention data. A trend line may be applied which allows for visual inspection to determine if the student is making adequate progress. Consider allowing students to graph their own progress as the act of monitoring their own progress toward a goal increases the likelihood the student will achieve the goal.

Graphs should be standardized with the time or dates recorded on the horizontal line or abscissa and the behavior recorded on the vertical or ordinate line. Graphs should be titled with the student name and intervention. Vertical phase lines should be added any time a change is made in the intervention. A horizontal line should indicate goal. Connect all consecutive data points. When data points are not connected it is an indication there was a break from the intervention; perhaps there was a substitute teacher or the student was absent for a few days. The Advanced Tier Spreadsheet is available on pbismissouri.org website for this purpose.

An example of a graph with all needed components is found on the next page.
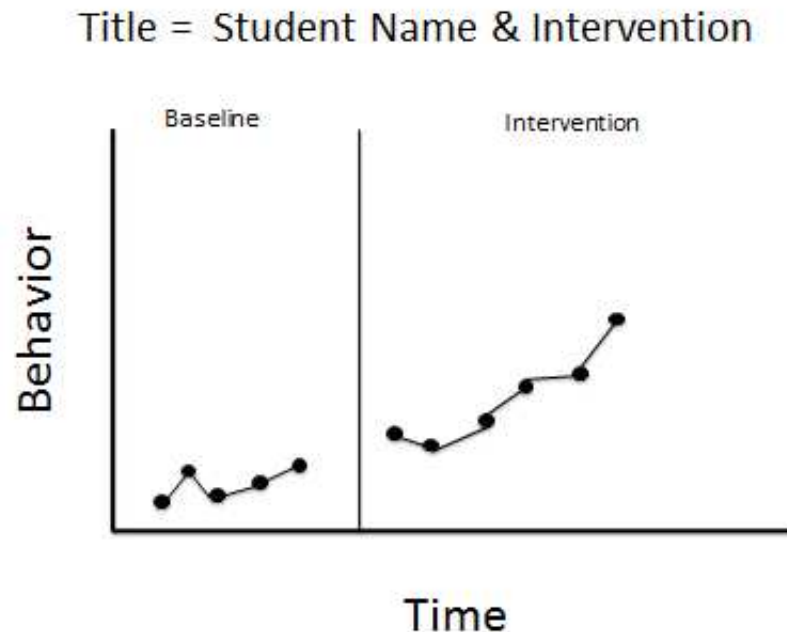
Title = Student Name & Intervention

Step 5. Use Data to Make Decisions

When developing the individualized BIP, the team determined a method to measure student response to the intervention; currently collected data (ODR, minors, etc.), permanent products, progress monitoring form, or observations. At the same meeting, it should be determined how often the data will be reviewed. Data should be reviewed at least monthly and used to determine if the intervention should be continued, intensified, modified, or to begin the fading process.

If the student is not having a positive response to the intervention, the first step is to determine if the intervention was implemented as designed. Fidelity of implementation may be assessed by listing the steps or components of the intervention. Then the person implementing may check off the steps they have been utilizing or someone may observe the person implementing and check steps off as they see them. Fidelity of implementation should be done when a questionable or poor response is indicated and before making any changes to the intervention.

The following chart describes a positive, questionable, and poor response to intervention and includes recommended decisions when reviewing student data.

Guidelines for Interpreting Student Data and Making Decisions

POSITIVE RESPONSE Gap between the trend line and the goal line is closing at an acceptable rate.	• Continue intervention with current goal • Continue intervention with goal increased • Teach self-management • Fade intervention components

QUESTIONABLE RESPONSE
 	
Gap between the trend line and goal line stops widening but closure does not occur in an acceptable amount of time.
	Was intervention implemented as intended?
	
	• If no: employ strategies to increase implementation integrity.
	• If yes: increase intensity of current intervention for a short period of time and assess impact.
	  ▶ If rate improves, continue.
	  ▶ If rate does not improve, return to problem solving.

POOR RESPONSE
 	
Gap between the trend line and goal line continues to widen with no change in rate.
	Was intervention implemented as intended?
	
	• If no: employ strategies to increase implementation integrity.
	• If yes:
	  ▶ Was the problem identified correctly?
	  ▶ Is intervention aligned with the function?
	  ▶ Are there other functions to consider?

Positive Response to Intervention

If the student is progressing with the intervention, the team must determine how long the student will reach the final goal before the intervention is faded. How the intervention is faded is specific to the intervention but in general the student is asked to begin taking more responsibility by self-monitoring. The student may also be asked to go a longer period of time before receiving recognition or reinforcement. A student with an individualized BIP may need supports for a long period of time. Remove parts of the intervention slowly and collect data as to the student reaction before reducing the supports further.

Questionable Response to Intervention

If the trend line shows a student is having a questionable response to the intervention, the first question to ask, "Was the intervention implemented with fidelity?"

If the team is satisfied that the intervention has been implemented with fidelity, then the team may decide to modify or intensify the intervention. Here are some general suggestions to follow when modifying or intensifying an intervention:

1. Provide more frequent feedback
   - Implement additional feedback session with the intervention facilitator
   - Allow for more frequent interactions between the student and his or her teachers

2. Individualize the feedback procedure
   - Allow the student to select the adult with whom he or she will regularly meet to review progress
   - Allow the student to use alternative ways to contact the adult that will monitor his or her progress (e.g. e-mail, text messaging, etc.)

3. Add a Self-Monitoring Component
   - Identify target behavior
   - Define the target behavior
   - Collect baseline data
   - Design procedure and materials
   - Teach student to self-monitor
   - Monitor progress
   - Follow up and fade

4. Individualize the reinforcer
   - Collaboratively develop an individualized contract that specifies the reinforcers the student will earn
   - Allow the student to select an adult with whom he or she can spend additional time
   - Individualize the reinforcer based on the student's function of behavior

Poor Response to Intervention

If the student is having a poor response to the intervention, again, the team should first check for fidelity of implementation. If the intervention has been implemented with fidelity, then the team may try modifying the intervention based on the above suggestions. The third option is to review the information gathered and ask:

- Was the problem identified correctly?
- Is intervention aligned with the function?
- Are there other functions to consider?

Removal from the intervention, a reanalysis of the information gathered on the student, and consideration of alternative interventions may be warranted.