Modify Interventions

Screen & Identify Students ▷ Implement SRBI ▷ Monitor Progress ▷ Modify Interventions ▷
Suspect Disability ▷ Gather Data ▷ Interpret Data ▷ Decide Eligibility

5. Repeated Assessment and Progress Monitoring

Contents of this Chapter

Chapter Overview

This chapter provides quality practices to help teams monitor student progress, including the quantity of data to collect, how to analyze the data, and guidelines to determine when to adjust or change an intervention.

Teams, including the parents, will read about a few progress monitoring practices that meet rule requirements. This is followed by an examination of both Curriculum-Based Measurement and formative measures used to monitor progress. Next is a discussion of effective progress monitoring tools, including guidelines, a discussion on sensitivity and frequency, issues and resources related to monitoring of English Language Learner (ELL) students and the monitoring of fidelity. This chapter explains the indicators to use when specifying decision-making rules for determining responsiveness. An examination of monitoring errors and evaluating monitoring efforts follows.

Regulations and Rules

Minnesota Statutes section 125A.56 subd. 1(a) states that before a pupil is referred for a special education evaluation, the district must conduct and document at least two instructional strategies, alternatives, or interventions. The pupil's teacher must document the results.

> *According to the National Center for Student Progress Monitoring, progress monitoring is a scientifically-based practice that assesses the academic performance of individuals or an entire class and evaluates the effectiveness of instruction. See the Toolkit on the OSEP Website, Teaching and Assessing Students with Disabilities.*

If a school is using state funds to provide Early Intervening Services (EIS), schools must provide interim assessments that measure pupils' performance three times per year and implement progress monitoring appropriate to the pupil.

In the Specific Learning Disabilities (SLD) Manual, *progress monitoring* refers to the frequent and continuous measurement of a student's performance that includes these three interim assessments and other student assessments during the school year. A school, at its discretion, may allow students in grades 9 - 12 to participate in interim assessments.

Minnesota Rule 3525.1341 Subp 2(D) states that progress data collected from the system of SRBI meet the criteria that the child demonstrates an inadequate *rate of progress*. Rate of progress is measured over time through progress monitoring while using intensive systems of SRBI, which may be used prior to a referral, or as part of an evaluation for special education.

A minimum of 12 data points are required from a consistent intervention implemented over at least seven school weeks in order to establish the rate of progress. Rate of progress is inadequate when the child's:

1. Rate of improvement is minimal and continued intervention will not likely result in reaching age or state-approved grade-level standards;

2. Progress will likely not be maintained when instructional supports are removed;

3. Level of performance in repeated assessments of achievement falls below the child's age or state-approved grade-level standards; and

4. Level of achievement is at or below the fifth percentile on one or more valid and reliable achievement tests using either state or national comparisons. Local comparison data that is valid and reliable may be used in addition to either state or national data. If local comparison data is used and differs from either state or national data, the group must provide a rationale to explain the difference.

Minnesota Rule 3525.1341 Subp 3(B) states that to determine eligibility, pre-referral intervention and system of SRBI documentation must use data from repeated formal assessments of the pupil's progress (achievement) at reasonable intervals during instruction. In addition, the Rule states that parents must receive the results.

Quality Practices

Progress monitoring is an essential component in the evaluation of an intervention. Progress monitoring procedures should be applied in systems of SRBI as well as traditional pre-referral systems.

> *Screening measures help predict future performance, progress monitoring measures show how the student is responding to instruction.*

Progress monitoring measures depict student's current level of performance and growth over time. Measures may relate to the curriculum when they assess a particular skill, however, they do not always represent all of the curriculum or skills taught within the intervention.

For example, oral reading fluency is a progress monitoring measure often used to assess if a student improves his decoding skills and/or reading fluency. Oral reading fluency has been proven effective for indicating growth in decoding skills even when reading fluency is not explicitly taught. For more on the scientific research-base on progress monitoring, see the Toolkit on Teaching and Assessing Students with Disabilities posted on the OSEP Ideas that Work Website.
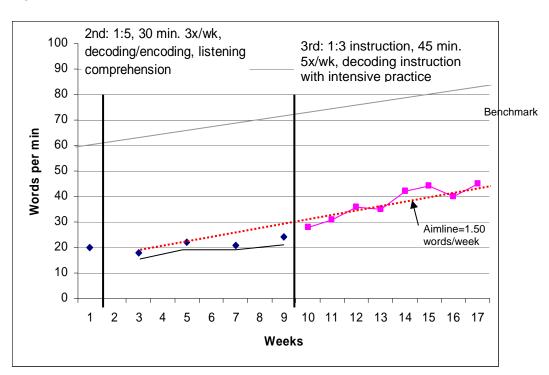
Illustrative Example

Even though her instruction focuses on improving accuracy and automaticity of decoding skills, the teacher administers an oral reading fluency measure each Wednesday. The measure counts the words read correct per minute.

The teacher marks the student's baseline score on a graph and then administers the intervention for four weeks graphing the student's median words read correct per minute from three one-minute probes.   She provides small group intervention and continues to mark performance on the graph. According to the decision rules outlined in the district's Total Special Education System (TSES) plan, the teacher reviews or modifies the intervention if four out of six consecutive data points falls below the aim line. The teacher changes the intervention and clearly shows on the graph that instruction has been modified.

She implements the modified intervention and repeats the data collection process. The student responds to the intervention, and the intervention is continued until benchmark expectations are reached. In this case, the aim line would be adjusted each cycle of intervention until the benchmark is achieved. Since the student is responding to the intervention, the student is not referred for a special education evaluation.

The graph below depicts the data in this illustrative example.

Figure 5-1. Analysis of Data Collected to Monitor Progress

Appropriate Progress Monitoring Practices

The following chart illustrates example progress monitoring (PM) practices that would meet rule requirements.

Important: The screening measures below serve as illustrative examples for districts. Although many of the measures have been reviewed by the National Center for Student Progress Monitoring, **examples are not endorsed by the Minnesota Department of Education and are subject to change**.

Table 5-1

Appropriate and Inappropriate PM Practices

Note: The practices indicated with a ✱ may become adequate progress monitoring measures with standardization and further evaluation for validity and reliability.

Component of Rule	Appropriate PM Practices	Inappropriate PM Practices
"Progress monitoring" means the frequent and continuous measurement of a pupil's performance that includes these three interim assessments and other pupil assessments during the school year.	Use of the following achievement measures on a weekly or bi-weekly basis: • Curriculum-Based Measures (CBMs) such as AIMSweb probes, Dynamic Indicators of Basic Early Literacy Skills (DIBELS), etc. OR • District created standards-based formative assessments that can be administered as interim assessments with alternate forms allowing for weekly progress monitoring.	Use of the following achievement measures: • MCAIIs • Measures of Academic Progress • Standardized tests with two alternate forms that can be used only every 6-8 weeks (e.g., Key Math) ✱ Informal Reading Inventories ✱ Running Records • End of unit tests
A minimum of 12 data points are collected from a consistent intervention implemented over at least seven school weeks in order to establish the rate of progress; interventions are implemented as intended	Changing the intervention according to pre-determined decision rules as outlined in the district plan. Implementing the intervention as designed so the student receives the proper dose and frequency, improving confidence that the data reflects student's actual response to instruction. Noting changes to instruction on progress monitoring graph. Noting the amount of time the student participated in intervention within the graph showing student progress.	Gathering the minimum number of data points without modifying or changing the intervention. Inconsistent collection of data. Judgment of progress monitoring data when intervention is not implemented or implemented well. Using progress monitoring probes that have not been evaluated for technical adequacy or practices standardized.
Data-based from repeated assessments and collected at reasonable intervals.	Weekly administration of progress monitoring probes is recommended. Collecting progress monitoring data using parallel forms on a consistent basis reduces measurement error.	Using standardized measures designed as pre-post tests for progress monitoring.

Component of Rule	Appropriate PM Practices	Inappropriate PM Practices
Reflects formal assessment of the child's progress during instruction.	Progress monitoring measures are technically adequate, administered and scored according to standardized procedures, and of equivalent difficulty. Progress monitoring data is collected on the instructionally appropriate skill. Data is used formatively. Ideally the teacher and student review the progress graph collaboratively each time data is collected. The teacher changes instruction or intervention according to decision rules. The student sets goals for performance and self-rewards when goals are achieved. Parents are provided graphs of progress monitoring data on a regular basis and particularly when the data indicates a modification or change in instruction is necessary.	Using probes inappropriate for the age or stage of skill development. Using measures of mastery or proficiency that have not been proven technically adequate or appropriate for age or grade-level state standards. Progress monitoring measures are not used in making instructional decisions. Parents are not informed of progress monitoring data on regular basis (which may be determined prior to beginning the intervention).

Progress Monitoring Measures

Progress monitoring provides:

- Teachers with feedback on how the student is responding to instruction and is useful in assisting the teacher in making data-based instructional decisions.

- Documentation of inadequate response when high quality instruction and interventions are in place. This documentation may be used to assist in identifying students likely to have a specific learning disability.

Important: Given that progress monitoring practices are still evolving, the SLD Manual does not attempt to provide a definitive list of what counts as progress monitoring measures. The practices described throughout this chapter are subject to change with additional research and innovation.

Curriculum Based Measurement (CBM) — Also known as General Outcome Measures (GOM) when the measures are disconnected from a specific curriculum — is one type of measure commonly referenced in the research literature that meets the above functions. CBM is the approach to progress monitoring for which the vast majority of research has been conducted. CBMs have well documented reliability, validity, sensitivity and utility for making instructional decisions, especially the oral reading fluency measure in the area of reading.

CBM differs from most approaches to classroom assessment in two important ways (Fuchs & Deno, 1991):

1. The measured behaviors and corresponding procedures of CBM are prescribed since CBM is standardized and have been shown to be reliable and valid. While not a requirement, behaviors measured with CBMs may be linked with the curriculum; however, they must be predictive of future performance and sensitive to small changes over time.

2. Each weekly test is of equivalent difficulty and indicates that the student is increasing acquisition or fluency of skills.

Although construction of CBMs may match behaviors taught within the grade-level curriculum, using CBMs not linked with the curriculum (called GOM) may be an advantage since they are effective for monitoring progress toward overall academic outcomes over longer periods (e.g., months or years) while also displaying changes in student growth. Their sensitivity allows weekly or biweekly administration, and when used formatively. Use of GOM allows teams to make instructional decisions over a shorter period (for additional information see training modules on the National Center for Response to Intervention).

Standards aligned short-cycle assessments, which are linked with state standards and end-of-course proficiency exams, are an alternate to CBMs. Districts may design technically adequate weekly probes that measure progress towards proficiency on end-of-course exams from short-cycle assessments. While rule may allow these measures, districts must determine if this approach to progress monitoring is viable. Additional limitations of these assessments include, for example, changing skills across shorter periods of time, which makes them less functional for use across multiple grades.

Mastery measures, for example, those that assess all skills on end-of-unit tests or criterion-referenced tests, are not progress monitoring measures. Mastery measurement typically involves changing the measurement material over time, i.e., as students demonstrate "mastery" on one set of skills they move to the next set of skills. Measurements then assess student progress toward mastery of the next set of short-term objectives.

Mastery measurement has limitations for monitoring progress over longer periods; however, sub-skill mastery data and progress toward general outcomes can be used together to provide a more in-depth picture of a student's growth over short periods.

Reasons for limitation of mastery measurement for monitoring progress over longer periods include:

- The lack of assessment of retention and generalization of skills.

- The measurement materials change.

- The different difficulty levels of various subskills. (Deno, S.L., Fuchs, L., Marston, D., & Shin, J. (2001))

Measurements for repeated administration to monitor progress toward general outcomes, rather than mastery "sub-skill" progress are preferred since the measurement material remains constant. They are also more useful across longer periods of time and across different interventions and programs.

Because new measurement tools continue to evolve, current research and reviews for particular academic areas, ages and populations are important to follow. See the federally funded National Center for Progress Monitoring for the most recent information.

Effective Progress Monitoring Tools

Measures that are sufficient to monitor progress should meet the following criteria:

- Reliable and valid.

- Quick and easy to use.

- Sensitive to small increments of student improvement.

- Available with multiple alternate forms.

- Proven. Evidence shows that they lead to improved teacher planning and student learning.

Guidelines

The federally funded National Center on Response to Intervention (NCRI) has developed guidelines for evaluating progress monitoring measures that incorporate the following characteristics, shown in the table on the following page. See the NCRI Website for these and other guidelines for setting benchmarks and rates of improvement that are critical for interpreting progress monitoring data.

Table 5-2

National Center on Response to Intervention's: Suggested Guidelines for Evaluating Progress Monitoring Measures

Criteria	Necessary Components for Technical Adequacy
Reliability.	Essential.
Validity.	Essential.
Sufficient number of alternate forms of equal difficulty.	Essential.
Evidence of sensitivity to intervention effects.	Essential.
Benchmarks of adequate progress and goal setting.	Desired. If not available, district must define or use research and correlate with local findings.
Rates of improvement are specified.	Desired. If not available, district must define or use research and correlate with local findings.
Evidence of Impact on teacher decision-making.	Desired for formative evaluation.
Evidence of improved instruction and student achievement.	Ideal.

Sensitivity and Frequency

Progress monitoring tools should be sensitive enough for bi-weekly or weekly use, and result in noticeable and reliable changes in student performance. For example, oral reading fluency measures allow for detection of increases in scores of a half a word or more per week.

Tools for progress monitoring in the area of written expression tend to be less technically adequate and less sensitive to growth over short periods, making formative decision making and documentation of growth much more difficult. For example, CBMs of written expression can show growth over longer periods, such as months or semesters, but generally are not sensitive to improvement on a weekly basis.

Schools wishing to monitor progress in written expression are encouraged to find the best possible measures and use data decision rules appropriate to the sensitivity of any chosen instruments.

Important: The trend or slope of progress, not an individual data point, are the basis of progress monitoring decisions due to variability or "bounce" in student data and the need to show a pattern of scores over time. See Determining Responsiveness in this chapter.

Sensitive measures that allow for more frequent progress monitoring permit teams to gather data to meet criteria to determine SLD eligibility in a reasonable timeframe. For example, oral reading fluency of words read correct per minute are very sensitive to changes in performance over the course of a week; however, *MAZE replacements* are sensitive to change over a period of months. Interventions that rely on MAZE replacements for progress monitoring may not yield, within a reasonable time, the volume of data necessary for use in eligibility determination.

Districts should use the same benchmarks and progress monitoring measures throughout special education service delivery. Maintaining consistency in measures provides a continuous base of student progress, which increases the likelihood that educators and parents understand how a student is progressing. For example, Mark, who was identified as SLD with significant lack of achievement in reading, receives special education services in the area of decoding. The teacher continues to use oral reading fluency measures at Mark's instructional level. Three times per year Mark participates in grade-level benchmarks. Mark, his teacher, and parents are able to see progress both at Mark's instructional level as well as compared with peers.

Progress Monitoring of English Language Learners (ELLs)

Progress monitoring is especially important when making educational decisions for ELLs. Since most learn basic skills in reading, writing and math as they acquire English, ELLs may experience low achievement for several years. They must make more progress per year than non-ELLs in order to "catch up."

Monitor progress regularly to ensure that instruction is effective for individual students. Additionally, examine rate of progress over time to help determine which ELLs need additional support through special education services. Effective progress monitoring tools provide data on how typical ELLs progress so that comparisons of a student's individual progress can be made to cultural, linguistic and educational peers.

An increasing number of studies have explored the use of CBMs for measuring the progress of ELLs. Evidence shows that the levels of reliability and validity for CBM procedures with ELL students are comparable to those of native speakers of English and that CBM is often effective to reliably predict student performance for ELLs.

Research has demonstrated the potential utility of CBM and related procedures for ELLs in Grade 1. CBM is found to predict success rates on state assessments for middle school ELLs.

The apparent technical adequacy for CBM for use with ELLs has led urban school

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districts to use CBM procedures to develop norms across reading, writing, and arithmetic to make progress evaluation decisions for ELL students. Technically adequate fluency procedures are very sensitive to growth and provide direct measures of the academic skill of concern.

References: Deno, 2006; Baker & Good, 1995; Baker, Plasencia-Peinado & Lezcano-Lytle, 1998; Fewster & MacMillan,2002; Gersten, 2008; Graves, Plasencia-Peinado & Deno, 2005; Vanderwood, Linklater & Healy, 2008; Muyskens & Marston, 2002; Robinson, Larson & Watkins, 2002; Blatchley, 2008.

For more information, see Reducing Bias in Special Education on the MDE Website.

Resources for Developing Progress Monitoring Measures for Young Children

Important: The screening measures below serve as illustrative examples for districts. Although many of the measures have been reviewed by the National Center for Student Progress Monitoring, **examples are not endorsed by the Minnesota Department of Education and are subject to change**

- Early Childhood Outcomes Center University of North Carolina (http://www.fpg.unc.edu/~eco/crosswalks.cfm). Tools—instrument crosswalks.

- Individual Growth and Development Indicator (IDGI) is similar to DIBELS Complete IDGI's to monitor students not receiving specialized intervention, to identify students who might benefit from such interventions, and to monitor the effects of intervention.

- Early Literacy and Numeracy Curriculum Based Measures, such as DIBELS AIMSweb, Easy CBM, etc.

Monitoring of Fidelity

Schools must have a training and refresher training plan and process, which ensure that progress monitor administrators are adequately prepared to score and administer measures. Periodic use of administration checklists or observations provides reliability checks. Some publishers provide fidelity checklists for use with their tools.

Interpreting progress monitoring data requires knowledge of the fidelity of both interventions and data collection. Teams should be aware of sources of error in measurements that adversely impact student scores and complicate interpretation of progress monitoring data. Errors that may occur during progress monitoring include:

- Technically inadequate CBM probes. Probes coming from sources that lack documentation of technical adequacy should not be administered. For more information, view the Progress Monitoring: Study Group Content Module (http://www.progressmonitoring.net/RIPMProducts2.html). (Deno, S. Lembke, E. and Reschly, A.)

- Lack of standardization in administration and interpretation of probes (failure to use a timer, multiple probe administrators with poor inter-rater agreement).

- Poor environment during administrative sessions, such as progress monitoring in the hall or next to the gym.

- Lack of consistency in the administration of probes.

Districts must have procedures in place that reduce sources of error and remediate situations when data are compromised. Data that is of questionable accuracy should not be used as a primary source of evidence in eligibility determinations.

> **Important:** If a student does not make progress and the fidelity of the intervention is unknown, then the student's lack of progress cannot be attributed to a lack of response to the instruction or to whether the instruction was appropriate.

Determining Responsiveness

In addition to selecting appropriate progress monitoring measures, schools should establish progress monitoring decision-making rules during planning before the intervention process begins. Districts also need systems to encourage the review and use of data. Scheduled reviews of progress monitoring data ensure their collection as well as the correct implementation of decision-making procedures.

Slope, Level and Shift

Districts may use a combination of the three indicators (slope, level, shift) when specifying decision rules for determining responsiveness.

Minnesota Rule 3525.1341 covers rate of improvement and level of performance. A slope of progress is created when each student's score is graphed against days on the calendar and a line of best fit is drawn through the scores. This slope or "trend line" represents weekly rate of improvement and is the rate at which the student makes progress toward competence in the grade-level curriculum.

Trend or slope refers to the student's rate of progress, and is typically drawn from 7 to 10 data points on a weekly data collection schedule. The teacher compares the trend or rate at which the student grows to the rate or goal set at the beginning of the year. That rate is represented on the graph by the slope of the long-range goal line.

If the student's data are above the goal line and the trend line is parallel to or steeper than the goal line, then the teacher continues instruction as is. If the data are below the goal line, or the trend line is parallel to or less steep than the goal line, the teacher may choose to change instruction. Although districts can use slope calculations to assess improvement, staff and parents find it easier to interpret graphical representations of growth over time. See the illustrative example in the Quality Practices section above.

The following measurement considerations and suggestions are important according to Christ and colleagues (e.g., Christ, 2006; Christ & Coolong-Chaffin, 2007) when using slope data to make decisions:

> *Use a research-based source and rationale for the expected or acceptable slope of progress, and calculate and interpret the student's slope of progress in a research-based manner.*

- Use an ordinary least squares regression line.

- Understand the variability of slope estimates.

- Use a confidence interval around the estimate of slope.

Improvements in technology make it increasingly more practical for districts to follow these suggestions when developing management and reporting decision-making procedures for progress monitoring data.

Level of performance refers to whether the student performs above or below the long-range goal that was set. A simple decision rule determines when to change instruction. For example, if a student's performance falls below the goal line on three consecutive data points when data are collected once per week, change instruction. If the data are above the goal line for six consecutive data points, raise the goal line.

Districts must use a combination of research estimates and district data to establish reasonable rates of growth and level of performance. Estimates of expected slopes of progress help set goals or standards for what is an "acceptable" amount of responsiveness.

Generate estimates from:

- Research-based samples of typical growth.

- Previous district or school-based evidence of student growth over time. See Stewart & Silberglit, 2008, for an example.

- Research-based estimates of the typical growth expected within a particular intervention or curriculum for a targeted population of students (see publisher of intervention or curriculum for details).

Judgment of the shift in data with the change in instruction is an additional aspect of determining responsiveness. Shift refers to the immediate effect seen for an intervention. The implication of a shift up of student data immediately after an intervention that continues for a number of days is that the intervention had an immediate and lasting effect. If the shift is downward, and the data stay down, it implies that the intervention must change.

Pre-established rules about what constitutes an adequate response will need to be established by district. Districts may choose to use slope of progress, level, and shift in their guidelines. Linking progress within a specified period in order to determine an "adequate response" may be difficult, but is necessary to inform instruction and determine the degree of effectiveness of intervention.

If teams choose not to follow the guidelines established by a district in making determinations of what to do with an intervention, they must clearly document their rationale and communicate this decision with parents. Districts should follow their approved Total Special Education System (TSES) plan as a guide when making

decisions about entitlement. A citation of non-compliance may be issued in instances where the data collected from a system of SRBI, as documented in the evaluation report, does not follow what is stated in the district TSES plan.

Monitoring Errors

Growth in the skill taught, known as the "corrects," is typically a primary desired outcome of monitoring progress and making instructional decisions as is low or decreasing level of errors, which correlates to increases in the desired or correct performance of the skill.

Students proficient in reading, writing, and math can perform related skills and do not make a high number of errors. Thus, monitor progress in both what the student is doing correctly *and* the number of errors made (e.g., number of words read correctly and number of errors per minute on a grade-level passage) particularly when introducing new skills or if the student has a history of making many errors.

Ultimately, a student with a high level of errors needs to show both a decrease in errors and an increased level of proficiency in the desired skill. In the short term, a decrease in errors can show the student is responding to instruction by improving overall accuracy. Use of data on both corrects and errors for instructional planning purposes help teachers and teams understand if student skill patterns, error types, or miscues could be used to inform instruction.

Use of error analysis is critical in determining:

- The most appropriate place to begin interventions or for matching interventions to student needs.

- If growth occurs when correct responses remain flat.

- If the intervention impacts the identified area of concern.

Running records or systematic tracking of errors and learning patterns can enhance data gathered from progress monitoring tools. For example, two students considered for secondary interventions receive the same score on measures of non-sense word fluency.   See scores below:

Student A				Student B			
w̲ ub	d o̲j	ik̲	v̲us̲	w̶ u b̶	d̶ o̲ j̶	i k̲	V̲ u s̲

Figure 5-2.

Student A has broken the words into chunks indicating that he has some non-automatic blending skills. Student B is missing specific letter sounds and is not showing any blending skills. She must develop letter-sound correspondence and blending skills. These data indicate that while both students require more instruction in decoding and fluency skills, they may start an intervention in different skills or require differentiation within an intervention.

Fidelity of Intervention and Determining Responsiveness to Systems of SRBI

The term fidelity is synonymous with "treatment fidelity," "intervention fidelity," "fidelity of implementation," and others. Definitions include:

- The extent to which program components were implemented (Rezmovic, 1983).

- The extent to which teachers enact innovations in ways that either follow designer's intentions or the extent to which user's practice matched the developer's ideal (Loucks, 1983).

- The degree to which an intervention program is implemented as planned (Gresham et al. 2000).

Although it is tempting to reduce fidelity to answering the question: "Was the intervention implemented or not?" fidelity is multifaceted and should be treated thus.

Fidelity applies to implementation — both the content (how much) and the process (how well). Because one of the purposes of intervention is to improve academic or behavioral performance, the goal is to demonstrate that improvements are due to instruction. Failure to monitor whether interventions are implemented as intended is a threat to confidence when determining if the intervention lead to the student's change in performance.

Measuring fidelity in the intervention and data collection process provides the following key benefits:

- Guides revisions or improvements in overall practice through ongoing staff development.

- Helps to determine the feasibility of a particular intervention for the classroom or for system-wide implementation.

- Provides assistance in determining whether a program will result in successful achievement of the instructional objectives as well as whether the degree of implementation will affect outcomes.

- Yields information in understanding why interventions or systems succeed or fail as well as the degree to which variability in implementation can occur without adversely impacting instructional outcomes.

Some research camps argue that variation within practice and over the course of an intervention is inevitable [Goss, S. Noltemeyer, A. Devore, H. (2007)]. Others claim that the longer the intervention the greater the likelihood of drift in practice [Goss, S. Noltemeyer, A. Devore, H. (2007)].

Variation and drift will not harm fidelity as long as the research-based instructional components are not compromised. Teams should establish practices that adhere to the core components that are critical to improving performance as identified by the intervention developers, so that natural variations may occur without compromising the

intervention. Examples may include the opportunities for student response over strict adherence to a script.

Checking fidelity of a whole-school implementation, which entails the collaboration of an entire system, is more complex than checking fidelity for a single interventionist. Although fidelity issues for general implementation of the structure and routine within the whole-school program may exist, individual teachers may adapt materials and routines for their particular needs.

Teams must assess whether to deliver interventions as written in the intervention plan prior to modification of intervention or when a disability is suspected. Fidelity of implementation is a core feature and must be determined if a team is to effectively rule out inadequate instruction as a factor in the eligibility decision process.

> *Fidelity of implementation is a core feature and must be determined if a team is to effectively rule out inadequate instruction as a factor in the eligibility decision process.*

If data indicate that implementation of intervention needs improvement, then adequately direct the staff person providing the intervention. If additional intervention with improved fidelity or exploration of additional solutions is not feasible, then interpret data used in the eligibility process with significant caution and validate them through other standardized measures where fidelity is maintained.

Important: Check fidelity of intervention on both a system-wide and individual level.

Evaluating Effective Implementation

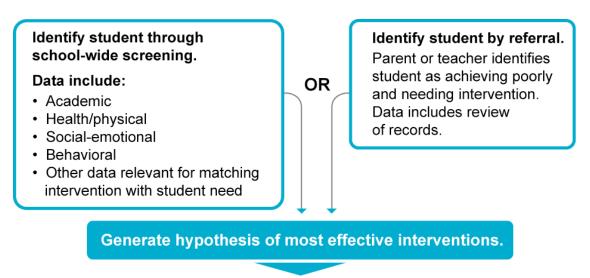Research supports the following methods to evaluate effective implementation:

- **Modeling and rehearsing intervention**—A team practicing the intervention or rehearsing the components improves fidelity of intervention.

- **Performance feedback for staff delivering intervention**—Coaches observing implementation and providing feedback improves reflection on practice as well as higher rates of fidelity.

- **Permanent products**—Examining student work samples against instructional objectives can increase fidelity to intervention. Additionally, some studies find that regular exchange of notes between home and school improves fidelity as well as student outcomes.

- **Direct observations**—Videotaping and analysis by the practitioner providing the intervention or a coach improves fidelity. Observations conducted by a coach, peer or principal also prove to be effective. Observations may be intermittent or random.

- **Self-report**—Research requiring practitioners to conduct self-rating scales completion of interviews shows some increase in fidelity. Some research shows that when self-report is used simultaneously with field observation, self-report data indicate higher levels of fidelity than when observed. Teams may want to add additional checks on validity to account for bias.

- **Standardized protocol for interventions or procedures**—The intervention is more probable when an intervention manual is in place that clearly defines the critical components of the intervention and articulates a theory. A manual should specify which structural components and processes are possible as well as acceptable ranges of fidelity. Higher specificity leads to greater fidelity.

Next Steps

This chapter examined quality practices in monitoring student progress. Teams have many decisions to make regarding how much data to collect, how to analyze the data, and guidelines for determining when an intervention needs to be adjusted or changed.

The following assessment process figure indicates the next step for using the data. Teams should document each step as students move through the pre-referral or system of SRBI process.

Identify student through school-wide screening.

Data include:
- Academic
- Health/physical
- Social-emotional
- Behavioral
- Other data relevant for matching intervention with student need

OR

Identify student by referral.
Parent or teacher identifies student as achieving poorly and needing intervention. Data includes review of records.

Generate hypothesis of most effective interventions.

Gather progress monitoring data, consider exclusionary factors and summarize what is known from interventions.

Figure 5-3: Assessment Process

If not already in process, the data from each step in the assessment process should be integrated into the guiding questions template. Data may include screening, record reviews, teacher interviews and documentation, intervention, progress monitoring, observation, and parent interviews.

Table 5-2

Guiding Questions and Data and Information Needed

Guiding Question	Existing Data	Information Needed
How has the team determined the student has had sufficient access to high quality instruction and the opportunity to perform within grade-level standards?		
What supplemental efforts aligned with grade-level standards, were implemented to accelerate the student's rate of learning and level of performance?		
What educational achievement/performance continues to be below grade-level expectations?		
How is the student functionally limited from making progress towards grade-level standards?		

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