

I&RS Requirements	How NJTSS Components Align with I&RS
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<p>I&RS must be provided to students in general education; and may be provided for students determined to need special education programs (N.J.A.C. 6A:16-8.1(a)1-2).</p>	<p>High-quality learning environments, curricula, and instructional practices that support all students and provide interventions when needed are essential to NJTSS. Tier 1 support and Tier 2 and 3 interventions may be provided to any student.</p>
<p>Identify learning, behavior and health difficulties of students through the collection of appropriate data (N.J.A.C. 6A:16-8.2(a)1-2).</p>	<p>NJTSS teams use universal screening and diagnostic data to determine the extent to which existing core practices support the majority of students and whether select students may benefit from additional intervention. Such assessment may be conducted to determine academic, behavioral, health, and other needs of students.</p>
<p>Use collected data to implement action plans for students experiencing difficulties that utilize appropriate school and/or community resources (N.J.A.C. 6A:16-8.2(a)3).</p>	<p>NJTSS teams utilize data-based decision making to develop and monitor intervention plans for students experiencing difficulties. The three tiers within the inner NJTSS triangle represent an array of supports to meet students' needs and may include interventions within the school and within the community. As the tiered interventions are delivered, student progress is monitored using specialized assessments to measure the student's response to the intervention.</p>
<p>Provide professional development, support and guidance to school staff who identify learning, behavior and health difficulties (N.J.A.C. 6A:16-8.2(a)4).</p>	<p>District and school leaders support the continuing professional development of staff to implement NJTSS as well as interventions and supports. Professional development is data driven and supports educators to refine instructional practices or provide targeted interventions based on identified needs.</p>
<p>Actively involve parents or guardians in the development and implementation of intervention and referral services action plans (N.J.A.C. 6A:16-8.2(a)6).</p>	<p>Family and community engagement is a foundational component of NJTSS. Facilitating the involvement of families in decision making, developing intervention plans, and monitoring progress promotes family engagement in learning and increases opportunities for practicing skills.</p>
<p>Coordinate the access to and delivery of school resources and community-based services to achieve outcomes in I&RS action plans (N.J.A.C. 6A:16-8.2(a)7-8).</p>	<p>District and school leadership teams and NJTSS teams align resources and create a continuum of support that includes interventions within the school and within the community.</p>
<p>Maintain records of all requests for assistance and all intervention and referral services action plans and all related student information (N.J.A.C. 6A:16-8.2(a)9).</p>	<p>District and school leadership teams determine the policies and procedures for maintaining records related to intervention plans and should ensure all staff are trained in the policies and procedures.</p>
<p>Review and assess action plans to determine if identified outcomes are being achieved, and modify to better achieve goals, as appropriate. (N.J.A.C. 6A:16-8.2(a)10).</p>	<p>NJTSS teams administer curriculum-embedded assessments, progress monitoring measures, and use fidelity data to not only inform intervention plans, but also to determine what adjustments are needed to the system of support.</p>
<p>At a minimum, annually review I&RS action plans, and if necessary, make recommendations to the principal for improving school programs and services, as appropriate (N.J.A.C. 6A:16-8.2(a)11).</p>	<p>NJTSS teams review data on programs and services regularly to guide systematic improvement. This includes data on successes and needs for growth in core instruction (Tier 1), as well as supplemental and intensive interventions (Tiers 2 or 3).</p>

The process begins with assessment. Assessment is the collection of data to answer questions and can involve activities, such as testing, observation, interviews, and reviews of existing information. Assessment data provides the foundation for all decision making in NJTSS. To that end, the decisions made at any point in the NJTSS process can only be as good as the data on which they are based. Educators need evidence-based assessment (EBA). Hunsley and Mash (2007) describe EBA as a process, including the use of theory or scientific evidence to help determine what to assess, how to assess it, and how data are used. Below are some best practices for engagement in EBA. The first question, in conducting EBA, is to consider the purpose of the assessment, or in other words, the question educators are trying to answer. Assessments in tiered systems are typically categorized according to the four types of questions described in the table below.

Table 2.3: Assessment

Question	Purpose of Assessment
How effective is our core academic or social-emotional and behavioral programming?	Universal Screening
Which students appear to require intervention?	Universal Screening
What type of intervention would be most helpful?	Diagnostic
Are students making enough progress while receiving intervention?	Progress Monitoring

Key Quality Indicators That Span All Purposes of Assessment

Assessments can be used for the purposes for which they were validated. Although different purposes for assessment (i.e., screening, diagnostics, and progress monitoring) place different demands on the data used to guide decision making, there are several issues that have an impact on the accuracy and usefulness of the data. These will be discussed in greater detail in sections that follow but are introduced with general descriptions here.

Validity

The term “validity” refers to the extent to which data from an assessment are indications of the intended construct or skill (e.g., scores from a test designed to measure inferential reading comprehension are valid to the extent that they represent different levels of inferential reading comprehension). There are multiple ways test designers, researchers, and practitioners can document the validity of the data they collect. Oftentimes, this evidence comes in the form of correlations between data from the assessment and some other measure of the same construct or a related construct.

Reliability

The term “reliability” is a reference to the consistency of the data produced by an assessment. Assessment data are reliable to the extent that they are free from random fluctuation, or in other words, that differences between assessment data reflect actual differences in the construct being assessed. Reliability coefficients help gauge how consistent, or free from randomness, a test’s scores will be; these typically range from 0 (no consistency, not reliable) to 1 (perfectly reliable).

Freedom From Bias

Although freedom from bias is an aspect of validity and can be related to reliability as well, its importance warrants specific attention in review and selection of assessments used to guide decisions in NJTSS. The term “bias” means a systematic form of error in assessment data, such as test scores that are inaccurately low or high for a specific reason. Forms of bias are introduced when assessment procedures or tests are not equally accessible for all students. For example, math test scores might be poor estimates of the math skills of multilingual learners when linguistic characteristics of test items block students’ comprehension of questions; scores in such a scenario no longer reflect students’ skills and abilities in math.

- The assessment is unrelated to their child’s grades,
- The purpose of the assessment is to help with instructional planning, and
- The assessment is periodic, which allows teachers to adjust the kinds of learning activities provided for students as skills grow or learning needs change over time.

Criteria for Selection of High-Quality Universal Screening Instruments

The New Jersey Department of Education established a set of criteria required for selection of universal screening instruments for early reading; many of these criteria may also be applied to screening instruments intended for use in other domains including other academic skills, as well as students’ social-emotional and behavioral functioning across age levels.

1. The instrument assesses research-based predictive indicators (i.e., it assesses skills and behaviors that are known to be associated with key academic, behavioral, or mental health outcomes in the future).
2. The assessment can be administered relatively quickly.
3. For assessments that comprise multiple test or rating scale items, there are a sufficient number of items per skill or construct measured.
4. The assessment is relatively easy to administer and score, requiring minimal additional training for school staff.
5. The instrument has standardized scoring procedures.
6. Meaningful, valid benchmarks have been established.
7. Companion progress monitoring measures are available (measures that target key skills or behaviors measured by the screening instrument).
8. There is sufficient evidence that the instrument is both sufficiently reliable and valid for the purpose of universal screening.
9. There is evidence that scores from the instrument are predictive of future achievement or functioning.

Targeted Tier 2 Intervention

As with screening assessment, the intervention process starts with planning, proceeds with intervention selection or design after review of screening data, and culminates with implementation. Interventions are applications of instructional strategies. They can be programs schools purchase from publishers, or they can be created using materials already on hand.

Build a Menu of Tier 2 Interventions

One of the most common challenges faced by educators in delivery of tiered services can be determining which interventions to use. In some cases, schools do not have a set of interventions ready to use, meaning materials are physically present and interventionists have the time and training to implement interventions. In other cases, schools may have several alternatives but are uncertain which would best align with students’ needs. In either case, the quality and quantity of any subsequent intervention is hampered by unpreparedness. For that reason, it is typically helpful to plan intervention resources in advance. This is akin to outlining the domains in which students might require intervention and identifying intervention(s) that would be effective, yet viable in the local context.

This requires that schools anticipate what their most common intervention needs will be across academics, behavior, and mental health. Kilgus and Ecklund (2016) offer some helpful guidance to this end, recommending that schools estimate the numbers of students likely to require some form of intervention beyond core instruction based on prior data; review resources to determine “serviceable base rates,” or numbers of students feasibly served with Tier 2 or Tier 3 resources; and identify a set of intervention protocols or programs that would span the Tier 2 needs most likely to be presented by incoming students.

Thinking About Intervention Characteristics

Interventions often come in the form of protocols (think of these as applications of single sets of instructional strategies to teach a single skill) or more comprehensive programs (think of these as multi-skill programs, often purchased commercially, with various instructional strategies used to teach multiple skills across a predetermined set of lessons).

Table 2.5: Intervention Characteristics

Intervention	Characteristics	Examples
Intervention Protocol	<ul style="list-style-type: none"> • Often targets one skill or a small number of skills. • Uses same instructional procedure from session to session. • Comprises step-by-step instructions for implementation. • Often available for free with minimal training requirements. 	<ul style="list-style-type: none"> • Specific teaching and practice routines, such as incremental rehearsal, word boxes, or repeated reading. • Behavior support protocols, such as Check-In/Check-Out (CICO).
Intervention Program	<ul style="list-style-type: none"> • Often targets multiple skills concurrently. • Instructional strategies vary across predetermined lessons. • Often available for purchase with moderate to large training requirements. 	<ul style="list-style-type: none"> • <i>Word Connections</i> (reading intervention program for multisyllabic words). • <i>Moving Up! Mathematics</i> (a group of math programs including materials for core, as well as Tier 2 and 3 interventions).

Whether using intervention protocols or more comprehensive programs, one of the key considerations in planning or evaluating Tier 2 and Tier 3 interventions is the skills targeted by each. In many cases, a student’s need for intervention is best understood as a mismatch between the student’s instructional needs (the skills they need to develop) and the degree to which Tier 1 instruction, as planned, addresses those needs.

A variety of intervention protocols may be found online or in numerous books on evidence-based intervention for academic skills. These are often helpful in remediation of basic skills problems in elementary grades or in establishing stronger automaticity of basic skills in later grades. To the extent that they can be implemented for groups of students at a time, these are often fine options to offer as Tier 2 levels of support. Intervention programs, often being more comprehensive in targeting multiple skills, are also viable candidates as Tier 2 interventions, although these can require more costs to prepare and implement. Ultimately, it is important to consider the degree to which key skills will be targeted in Tier 1 (students don’t stop receiving Tier 1) and the ways in which intervention programs will augment, not replace instruction in that subject area.

Evidence of Efficacy

The term efficacy refers to how well something can work in the laboratory; effectiveness is how well it works in the real world. In the context of intervention, the word efficacy just means that something has been demonstrated to have a meaningful impact on learning or functioning in the context of experimentation (comparisons between treatment and control conditions). In contrast, an intervention can be said to be effective when there is evidence that its use in the school context can be expected to improve student learning or functioning. To the greatest extent possible, instruction must be evidence based. This means that there needs to be some documented evidence (of efficacy, as well as effectiveness) that the intervention(s) can be expected to lead to meaningful gains in the targeted skills for students. There are many information sources listing intervention ideas and programs; a complete review is beyond the scope of this manual, but readers are encouraged to explore resources such as the following:

- [What Works Clearinghouse](#)
- [Intervention Central](#)
- [NCII Academic Intervention Tools Chart](#)
- [National Center for Rural School Mental Health: Intervention Hub](#)

One of the terms associated with evidence-based intervention is **effect size**. The effect size of an intervention is the amount of change expected if schools use the intervention with students whose instructional needs coincide with what it targets and implement the intervention with high fidelity. Effect sizes are estimates produced by researchers to convey the size of the benefit an intervention should convey under average or optimal circumstances.

There are a variety of different ways to calculate effect sizes (and different effect sizes have different meanings). But in the case of research on interventions targeting skills, effect sizes are most often reported in terms of units of standard deviation. How many standard deviations higher was the average outcome from an experimental group versus a control group? These effects range from 0 (no change) to 1 or even greater. Common conventions for interpreting these include small effects (between .2 and .5), moderate effects (between .5 and .8), and large effects (.8 and greater; Cohen, 1992).

Note that separate well-designed research studies will result in different effect size estimates for the same intervention. Schools, in searching for and selecting evidence-based interventions, should be prepared to review evidence of the effects of different interventions and to judge the degree to which results obtained in research studies might be expected to generalize to their own local context (including considerations such as characteristics of the populations of students included in the research or also the resources used in implementation of the intervention). For this reason, it is important, when reviewing summaries of research on interventions, to examine the range of effects observed, as well as any information surrounding the conditions under which effects were stronger or weaker—what worked well, and under what circumstances. A template for evaluating interventions is available in [Appendix 2.2](#).

Intervention Costs

There are monetary as well as time costs associated with acquiring and using interventions. When evaluating alternative intervention protocols or programs, it is worth considering the balance between these two costs (time and money) and anticipated benefit to students. Interventions in the context of Tier 2 are often less costly per student, requiring less comprehensive intervention and less specialization from interventionists and consultants. Interventions that require teams to address more complex learning, behavioral, and mental health problems (Tier 3 intervention) call for a higher degree of individualization for students or might target skills that are further away from grade-level expectations. Differences in costs and needs for individualization are the chief differences between Tier 2 and Tier 3 interventions.

Intervention Dosage

The term dosage refers to how much of an intervention students will receive. One common reason for poor intervention outcomes (aside from targeting the wrong skills or goal) is insufficient time allocated for implementation. The time required for Tier 2 intervention varies, depending on the nature of the learning, behavior, or mental health problem. Care must be taken, however, to ensure that sufficient time is allocated for Tier 2 activities—often a block of up to 30 minutes (Brown-Chidsey & Bickford, 2016) daily. Interventions implemented once or twice per week are likely insufficient. Along these lines, teams that meet to review students' progress within interventions can also monitor the extent to which students have been able to participate in interventions as planned. A variety of factors can reduce actual (versus planned) intervention dosage, including students' behavioral functioning, illnesses, attendance problems, staff absences, etc.

Intervention Format

The format of an intervention is an important consideration in planning Tier 2 resources. Some interventions, based on the way they are implemented, are only helpful working one on one with individual students (more suited to use in the context of Tier 3, intensive intervention). Other interventions can be used with whole groups of students at a time and are therefore possibly useful in the context of Tier 1 (whole-class interventions for behavior or academic skills) and Tier 2 (small-group interventions). In planning intervention resources across tiers, it is often helpful to have interventions that represent a range of formats. This gives teams flexibility as individual students and groups of students change over time.

breaks from instruction due to a variety of different events). Pairing this contextual information with some systematic practices, described next, helps ensure that interventions are not shortened or prolonged, and that students' instructional time is optimized.

Decision Rules

The decisions above are based primarily on trends in student progress monitoring data. Early on in the history of NJTSS (when it was called "response to intervention," or "RTI"), many educators used a data-point decision rule. With this rule, a decision to change the intervention would be made if a student had 3 to 5 scores consistently below or above the aim line. Researchers have determined that this particular rule leads to inaccurate decisions too often (Van Norman et al., 2018), and its use is not recommended.

Alternatives include comparison of the estimated slope of the trend line (rate of growth) to the slope of the aim line (the rate of growth required to meet the goal selected for that student). Whereas this can lead to more accurate decisions about changes to interventions, the techniques used to estimate and compare slopes of both lines are highly technical, which may be a barrier in many schools. One technique that offers greater accuracy than the data-point rule and is also easy to implement is a median rule. Calculate the median of a student's three most recent progress monitoring scores. If the median of these scores is below the corresponding point on the aim line, teachers could be confident in a decision to alter an intervention plan.

Table 2.6: Decision Rules

Decision Rules	
Number of Data Points	Not recommended for use.
Trend Line Comparison	Potentially more accurate than number of data points rule but challenging to implement.
Median Comparison	Potentially more accurate than number of data points rule and easy to implement.

Number of Data Required

The wisdom in the adage, "measure twice, cut once" applies in progress monitoring. The more data teachers have, the more confidence they can place in their decisions. On the other hand, prolonging an intervention beyond its usefulness to the student is an outcome that is to be avoided if possible. There isn't one number of progress monitoring data that are required before educators can be confident in making a decision about an intervention. That is because it depends on (a) what is measured (some skills change more rapidly than others), (b) the characteristics of the measurement being used (some are more sensitive, or more accurate, than others), and (c) the nature of the decision to be made. It wouldn't be advisable to decide to change an intervention based on only two or three data points; four or five might be considered minimal for instructional decision making.

Setting SMART Goals

One of the main reasons progress monitoring data are collected is to inform educators when it is time to make some kind of change to the intervention. Decisions about students' observed rates of progress are reliant on goals. The best goals are specific, measurable, ambitious, yet realistic, and time-bound (SMART).

Table 2.7: Goals

Helpful goals are...	Unhelpful goals are...
Specific ("I want to lose five pounds.")	Aspirational ("I want to lose weight.")
Measurable (Objective)	Not measurable (Subjective)
Ambitious (Close the Achievement Gap)	Unambitious (the goal is set too low, and the student will not be working to potential)
Realistic (Attainable)	Unrealistic (Defies the Laws of Nature)
Time-bound (Has a Deadline)	Non-time-bound (Whenever)

Creating intervention goals that are specific, measurable, and time-bound is straightforward. The challenging part of goal setting is creating goals that are ambitious, yet realistic. There are multiple procedures educators can use to calculate intervention goals that satisfy both demands. In general, goals can be based on expectations for performance in Tier 1 at specific points in time and how much more rapidly a student's skills would have to grow to meaningfully reduce gaps in observed versus expected performance over time. Please note, a student can have multiple SMART goals or a succession of SMART goals that lead to standards mastery.

Meeting to Review Progress Monitoring Data

Teams will meet regularly to review progress monitoring, as well as implementation fidelity data. These meetings are to be as brief, focused, and efficient as possible. To that end, data is to be prepared and ready to review beforehand. Review meetings are to be pre-scheduled for the entire school year, and agendas can be prepared in advance. The students' progress to be reviewed at each meeting will depend on the length of time they have been receiving interventions or enrichment or the time since most recent changes to intervention occurred. Facilitators of these meetings could separate students in terms of rates of growth:

- high rates of growth and goal attainment (student mastered the skill targeted)—consider exiting intervention,
- good rates of growth—keep the intervention going, and
- low rates of growth—potential need for change or intensification of intervention.

Membership at progress monitoring review meetings will vary from school to school. The team reviewing the data can, however, include enough people to answer questions about what was implemented (and how), questions about the progress monitoring or other data, and questions about the skill(s) targeted by intervention as well as provide contextual information about Tier 1. A hypothetical example, in the table below, shows how various attendees can help meet these needs. How schools operationalize this will vary; additional guidance is given in [Section 3](#) of this manual.

Table 2.8: Sample Membership at Progress Monitoring

Person	Knows What Was Done	Knows Data	Knows Subject Area	Tier 1
Interventionist(s)	X		X	
Teacher(s)		X	X	X
Support Staff (i.e., Nurses, Counselors, etc.)		X	X	
Teacher / Specialist			X	X

Examples of Measures for Screening and Progress Monitoring

There are a variety of measures, mostly general outcome measures (GOMs), that are used for monitoring progress in academic interventions. Many of these are also used for screening purposes. The concept of GOM does not extend as easily into the realm of social, emotional, and behavioral functioning, and fewer resources have been developed at this time. That said, the list is growing, research is advancing, and there are several options schools may now consider for purposes of screening and potentially for progress monitoring in this broad domain. The measures listed below are not specific to any single test publisher but are references to the skills that are often measured as part of assessment in tiered systems of support.

Table 2.9: Examples of Measures

Reading	
	Example Measure
Basic Reading Skills	Phoneme Segmentation Fluency
	Letter Sound Fluency
	Nonsense Word Fluency
	Word Reading Fluency
	Oral Reading Fluency
Reading Comprehension	Maze & Cloze
	Oral & Written Retell Fluency
	Sentence Verification
	Multiple Choice Questions
Mathematics	
	Example Measure
Number Sense	Number Identification Fluency
	Quantity Discrimination Fluency
	Missing Number Fluency
Calculation	Math Fact Fluency
	Computation Fluency
Problem Solving	Math Concepts & Applications Fluency
Social, Emotional, and Behavioral Functioning	
	Example Measure
Behavior at School	Systematic Direct Observation
	Direct Behavior Rating Scales (DBR)
Social and Emotional Functioning	Rating Scales

Diagnostic activities in the context of Tier 2 intervention do not need to be in-depth. Such information might be obtained from data originally collected from screening or in brief interviews with teachers at grade-level data team meetings. Instructional planning in Tier 2 rarely requires administration of additional tests. More complex or more severe problems, however, typically require more diagnostic information to aid in needs analysis and intervention plan development.

Table 2.11: Diagnostic Activities

Concern	Description	Extent of Diagnostic Assessment
Small Problem	Mild to moderate differences between expected levels of performance and actual levels of performance.	Less time, materials, and expertise required. Need for individualization within intervention is not great.
Large Problem	Large differences between expected levels of performance and actual levels of performance.	Greater time, materials, and expertise may be necessary.

Examples of Tier 3 Intervention

For Academics in Primary Grades

Small groups meet—often with a specialist, sometimes with a special education teacher (teaching students with IEPs; incidental benefit)—outside of core instruction. Intervention materials in this context are more likely to involve intensive intervention programs (with full lessons and accompanying materials) and target multiple academic skills together, rather than intervention protocols that provide instruction to bolster accuracy and fluency with a single skill.

Tier 3, intensive intervention, can also take the form of unique intervention plans created for individual students, as in the case of traditional I&RT as described at the beginning of [Section 2](#). Yet this format often comes with implementation challenges, including (a) team members’ subject area knowledge and ability to plan the intervention, (b) creation of or access to instructional materials for the student, and (c) allocation of staff time for implementation of an individual intervention—both frequency and duration of intervention might be jeopardized in this format.

For Social, Emotional, and Behavioral Needs in Primary Grades

Intensive intervention for social, emotional, and behavioral needs for students in primary grades often takes one of two forms: (a) provision of direct services by a specialized interventionist (e.g., a counselor or psychologist) or (b) consultation from a specialist with teachers and also parents and guardians to develop and implement personalized intervention plans for students. Whereas Tier 2 interventions in this domain often involve less resource intensive procedures to address less severe issues (e.g., use of Check-In/Check-Out), Tier 3 interventions in this domain typically require greater resources and specialization from personnel, and intervention plans are more frequently individualized for the student.

For Academics in Secondary Grades

Intensive intervention in the context of secondary schools likely takes the form of a remedial class taught by a specialist for a defined time span (i.e., a quarter or a semester). The targets of such interventions may still include basic skills (e.g., interventions targeting multisyllabic word reading for students in middle school or junior high or interventions targeting algebraic reasoning and computation for students in junior high or high school), but students’ needs for academic intervention in higher grades might shift and target additional skills required for learning (e.g., interventions leveraging self-regulated learning strategies to boost academic performance; Cleary & Kitsantis, 2017).

For Social, Emotional, and Behavioral Needs in Secondary Grades

Tier 3, intensive intervention, in the junior high or high school contexts might follow a format similar to that described in the context of elementary or middle schools, in which students meet with interventionists (often counselors or psychologists), or specialists consult with teachers, parents, and students to help plan and facilitate implementation of behavioral interventions. Whereas Tier 2 interventions in this domain often involve less resource intensive procedures to address less severe issues (e.g., use of Check-In/Check-Out), Tier 3 interventions in this domain typically require greater resources and specialization from personnel, and intervention plans are more frequently individualized for the student.

