In the following report, Hanover Research reviews best practices in differentiated instruction and multi-tiered systems of support.
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EXECUTIVE SUMMARY

INTRODUCTION

In this report, Hanover Research reviews the literature on differentiated instruction and multi-tiered systems of support (MTSS). This research is intended to support Washington school districts in differentiating instruction to support diverse students within an MTSS framework. The report includes the following sections:

- **Section I** provides a general overview of differentiated instruction, including research on the effectiveness of differentiated instruction and best practices in administrative support for differentiated instruction.
- **Section II** reviews MTSS frameworks that support differentiated instruction, including essential elements of MTSS and administrative strategies to support MTSS at the school level.

KEY FINDINGS

- **Differentiated instruction uses strategies such as heterogeneous grouping and team teaching to ensure that general classroom instruction is accessible for all students.** Teachers differentiate instruction by adjusting the content, process, product, and affect of instruction to meet individual student needs. Differentiation requires teachers to plan instruction that meets all students’ needs and adjust instruction in response to unanticipated needs.

- **Differentiated instruction is a core element of MTSS.** However, differentiation and MTSS target different aspects of instruction. Differentiation focuses on varying instruction to meet individual student needs, while MTSS frameworks focus on providing more intensive supports to students who do not respond to effective Tier I instruction. Teachers can use differentiation as a strategy to support effective Tier I instruction within an MTSS framework, and should ensure that students receive differentiated instruction before being referred to more intensive interventions.

- **Teachers need substantial professional development to differentiate instruction effectively.** Professional development may be more effective when it includes opportunities for collaboration and differentiation to meet individual teacher needs. Some schools use professional learning communities (PLCs) to incorporate collaboration into professional development.

- **Schools can use classroom observations to support professional development and monitor the implementation of differentiated instruction.** Schools can also combine classroom observations with teacher evaluations and surveys or focus groups to identify professional development needs. To support classroom observations, schools can purchase proprietary observation instruments or develop their own instruments that align with state and local standards.
Differentiation requires effective formative assessments. Teachers use formative assessments to diagnose each student’s ability to learn course content and match instructional strategies to each student’s level of readiness. The MTSS process requires universal screening tools and progress-monitoring assessments. Teachers can combine assessment data with their knowledge of students’ interests, needs, and relationships to support differentiation.
SECTION I: DIFFERENTIATED INSTRUCTION

In this section, Hanover Research discusses the use of differentiated instruction to support student achievement. This section begins with an overview of differentiated instruction, including research on the effectiveness of differentiated instruction. This section goes on to review faculty supports and professional development needed to support differentiated instruction.

OVERVIEW

Differentiated instruction uses strategies such as heterogeneous grouping to ensure that general classroom instruction is accessible for all students. The NCRTI emphasizes that differentiated instruction is a distinct process from providing interventions within an MTSS framework as discussed in Section II of this report. The goal of differentiated education is to ensure that all students learning in the same classroom have equitable access to educational opportunities and resources that meet their needs. Teachers can differentiate instruction by adjusting the four elements shown in Figure 1.1 based on students’ interests, learning preferences, and readiness.

Figure 1.1: Elements of Instruction for Differentiation

<table>
<thead>
<tr>
<th>Content</th>
<th>• The knowledge, understanding, and skills we want students to learn.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>• How students come to understand or make sense of the content.</td>
</tr>
<tr>
<td>Product</td>
<td>• How students demonstrate what they have come to know, understand, and are able to do after an extended period of learning.</td>
</tr>
<tr>
<td>Affect</td>
<td>• How students’ emotions and feelings impact their learning.</td>
</tr>
</tbody>
</table>

Source: Association for Supervision and Curriculum Development

Differentiation is distinct from the Universal Design for Learning (UDL) framework in that differentiated instruction adjusts instructional strategies to meet individual student needs identified through formative assessment, while UDL proactively designs instruction to be

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accessible for all students. However, the Washington Office of the Superintendent of Public Instruction (OSPI) recommends that teachers use UDL principles to support flexible grouping for differentiated instruction. The following is a list of widely recognized instructional strategies that can be implemented in the classroom to promote differentiated education:

- **Cooperative Learning** is “the instructional use of small groups so that students work together to maximize their own and each other’s learning. Class members are organized into small groups after receiving instruction from the teacher. They then work through the assignment until all group members successfully understand and complete it.” Sometimes this approach to differentiated instruction is referred to as flexible grouping.

- **Project-Based or Problem-Based Learning** is a “dynamic approach to teaching in which students explore real-world problems and challenges. The teacher plays the role of facilitator, working with students to frame worthwhile questions, structuring meaningful tasks, coaching both knowledge development and social skills, and carefully assessing what students have learned from the experience.”

- **Learning Stations** “are created for one lesson and contain tasks that address different challenges.” Students rotate among the stations and complete the lesson within a given time frame.

- **Flipping the Classroom** is a strategy in which teachers reverse the typical order of classroom instruction and homework. Teachers assign video lectures as homework to deliver initial instruction, and then assign problems that would ordinarily be assigned as homework during class time. This strategy facilitates grouping to support differentiation and allows teachers to provide more individual feedback.

The educational consulting organization K-12 Blueprint has developed a list of differentiation strategies to support English Language Learners (ELLs), students with disabilities, and above or below grade-level students, available here. School districts have also developed lists of differentiation strategies for each aspect of instruction. Figure 1.2 shows differentiation strategies recommended by Edison Township Public Schools in New Jersey.

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10 Ibid.


### Figure 1.2: Edison Township Public Schools Differentiation Strategies

<table>
<thead>
<tr>
<th>Aspect of Instruction</th>
<th>Differentiation Strategies</th>
</tr>
</thead>
</table>
| **Content**           | ▪ Determined through formative assessment  
                      ▪ Using reading materials at varying readability levels  
                      ▪ Putting text materials on tape/CD  
                      ▪ Using spelling/vocabulary lists at readiness level of students  
                      ▪ Presenting ideas through auditory, visual, kinesthetic, & tactile means  
                      ▪ Using reading buddies  
                      ▪ Flexible grouping  
                      ▪ Compacting  
                      ▪ Meeting with small groups to reteach idea/skill, or to extend the thinking/skill  
                      ▪ Multi-leveled questions  
                      ▪ Modeling |
| **Process**           | ▪ Tiered activities  
                      ▪ Centers/Stations  
                      ▪ Developing personal agendas  
                      ▪ Manipulatives  
                      ▪ Varying the length of time a student may take to complete a task  
                      ▪ Cubing  
                      ▪ Learning logs or journals  
                      ▪ Note-taking organizers  
                      ▪ Graphic organizers  
                      ▪ Highlighted materials  
                      ▪ Jigsaw  
                      ▪ Think, Pair, Share  
                      ▪ Learning Menus  
                      ▪ Webquests  
                      ▪ Labs  
                      ▪ Role Play / Simulations |
| **Product**           | ▪ Choice boards  
                      ▪ Podcast  
                      ▪ Blog  
                      ▪ Presentation  
                      ▪ Quiz/Test  
                      ▪ Using rubrics that match and extend students’ varied skill levels.  
                      ▪ Encouraging students to create their own product assignment.  
                      ▪ Enabling students to use contemporary media/technology as tools to demonstrate knowledge and understanding |

Source: Edison Township Public Schools

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14 Chart contents taken with very minor alterations from: Ibid., p. 1.
**Impact of Differentiated Instruction**

It should be noted that the use of differentiated instruction as an alternative to separate classes for gifted students or students with disabilities is controversial within the field of education. Opponents of differentiated instruction argue that differentiation is difficult or impossible to implement effectively.\(^{15}\) A 2009 article published in the journal *Gifted Education Quarterly* reports that teachers often resist differentiated instruction due to the additional planning required, and may fail to provide adequate differentiation for gifted students.\(^{16}\) An attempt to study the long-term impacts of differentiated instruction failed when the author found that teachers did not implement differentiated instruction even after receiving substantial professional development and coaching.\(^{17}\)

A 2010 book published by the nonprofit educational research organization Mid-Continent Research for Education and Learning (McREL) notes that “no empirical evidence exists to confirm that the total package of differentiated instruction... has a positive impact on student achievement.”\(^{18}\) The author notes that research on components of differentiated instruction, particularly aligning instruction to students’ learning styles, does not find substantial effects on student achievement.\(^{19}\) Further, a 2017 study published in *School Effectiveness and School Improvement* finds no correlation between teachers’ use of differentiated instruction measured through classroom observations and student achievement.\(^{20}\)

However, advocates of differentiated instruction argue that differentiation is essential to avoid ability tracking.\(^{21}\) More recent research finds some positive effects of differentiated instruction. For example, a 2014 study in the *Journal of Advanced Academics* examined differentiated instruction intervention implemented across four middle schools and finds significant positive effects on reading achievement in two schools and no significant effects in two schools.\(^{22}\) Further, a 2013 study of a differentiated mathematics curriculum for Grade 3 students finds that the differentiated curriculum improved student achievement for high

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\(^{19}\) Ibid., pp. 13–14.


achieving students in low achieving schools, although the overall effect of the curriculum was not statistically significant.\(^{23}\)

**Schools should avoid differentiation based on perceived learning styles, and rely on research-based assessment instruments to inform instructional decisions.** A 2009 review of existing research on learning styles published in the journal *Psychological Science in the Public Interest* concludes that “at present, there is no adequate evidence base to justify incorporating learning-styles assessments into general educational practice.”\(^{24}\) More recent research does not appear to have identified positive impacts of using learning styles to guide instruction, and an open letter signed by several prominent professors of education and psychology in 2017 condemns the use of learning styles as a waste of resources.\(^{25}\) Schools should also use caution in adopting differentiation strategies based on the theory of multiple intelligences, which has not been supported by empirical research.\(^{26}\)

The What Works Clearinghouse (WWC) recommends differentiating instruction as part of an RTI model for reading instruction in the primary grades despite the limited evidence base.\(^{27}\) Section II of this report discusses multi-tiered systems of support (MTSS) which incorporate differentiated instruction as a Tier I instructional strategy for all students.

**INSTRUCTIONAL PLANNING**

Differentiated instruction requires teachers to plan instruction that meets each students’ needs. Classroom teachers may wish to collaborate with other school personnel, such as content-area coaches, speech and language therapists, special education teachers, and gifted education teachers.\(^{28}\) Figure 1.3 shows a process for differentiating instruction recommended by the 2013 book *Teacher’s Survival Guide: Differentiating Instruction in the Elementary School Classroom*. This process uses learning goals identified through instructional planning and pre-assessment data to inform the actual differentiation of instruction.

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https://eric.ed.gov/?q=differentiated+instruction+professional+development&ft=on&id=ED574537

https://doi.org/10.1111/j.1539-6053.2009.01038.x

http://www.theguardian.com/education/2017/mar/12/no-evidence-to-back-idea-of-learning-styles

http://www.psychologytoday.com/blog/unique-everybody-else/201311/the-illusory-theory-multiple-intelligences


https://us.corwin.com/sites/default/files/upm-binaries/67615_Pages_from_Thousand_1_Differentiating_Instruction_2e_3.pdf
Moving from the pre-assessment stage to the differentiation stage requires effective instructional planning to identify learning goals. Instructional design connects learning, assessment, and resources to desired learning outcomes. Learning outcomes should align with relevant district or state learning standards. The Tennessee Department of Education recommends that instructional plans for differentiated instruction include the elements listed in Figure 1.4.

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30 Ibid., p. 12.


Differentiated instruction also requires teachers to adapt lessons during instruction to meet “needs that were not or could not be anticipated.” Teachers should plan initial instruction to be accessible to all students, but the instructional process may reveal student needs that were not apparent during the planning process. In these cases, teachers need to retrofit instruction to address new student needs.

**Assessment Strategies**

Classroom differentiation requires an effective formative assessment strategy to align activities with learning standards. Teachers use formative assessments to diagnose each student’s ability to learn course content and match instructional strategies to each student’s level of readiness. The Tennessee Department of Education recommends that teachers use the following assessments to identify student needs for differentiation:

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Universal screening and progress monitoring assessments (Section II of this report discusses universal screening and progress monitoring within the context of MTSS),

- Pre-assessments,
- Background knowledge surveys and KWL (Know, Want to Know, Learned) charts, and
- Self-assessments.

Teachers should also consider data from prior assessments, including student data profiles and records of previous interventions and supports.\(^{39}\) The Florida Department of Education identifies the potential data sources to support instructional decisions listed in Figure 1.5.

**Figure 1.5: Potential Sources of Data to Support Instructional Decisions**

- Student work samples
- Formal and informal observations
- Specific skill assessment
- Interviews/surveys (student or parent)
- Grades, report cards, cumulative records
- Checklists
- Progress monitoring
- Performance assessments
- Anecdotal data

Source: Florida Department of Education; Bureau of Exceptional Education and Student Services\(^ {40}\)

Alberta Education recommends using assessment data to create a learning profile for each student. Learning profiles combine assessment data with information on students’ backgrounds and preferences to identify strengths and development areas, as well as interventions that have previously been effective for individual students.\(^ {41}\) Classroom teachers can combine assessment data with their knowledge of students’ learning needs to differentiate instruction within the classroom. Teachers should create profiles of their student’s interests, social-emotional needs, and relationships to support effective grouping decisions.\(^ {42}\)

In addition to assessing students to support differentiation, schools should differentiate the assessment process itself to offer students multiple formats to demonstrate academic performance. Differentiated assessment, in turn, informs further differentiation of instruction.\(^ {43}\) Different types of assessments should comprise an assortment of evaluative measures and rubrics for grading student progress.\(^ {44}\) Figure 1.6 shows strategies to differentiate assessment recommended by Alberta Education.

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\(^{39}\) Ibid.


Figure 1.6: Strategies to Differentiate Assessment

<table>
<thead>
<tr>
<th>STRATEGY</th>
<th>DESCRIPTION</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supporting Students with Learning Difficulties</td>
<td>Teachers can adapt assessment modifications designed to support students with learning difficulties to support students who do not have an individualized education plan (IEP), but who appear to have similar learning needs.</td>
</tr>
<tr>
<td>Rethinking Grading Practices</td>
<td>Teachers can incorporate support for student choice and differentiated support into their course grading process.</td>
</tr>
<tr>
<td>Assessment-for-Learning Practices</td>
<td>Teachers can implement assessment-for-learning strategies such as exit slips, growth portfolios, learning logs, and reflective journals</td>
</tr>
<tr>
<td>Facilitating Metacognition</td>
<td>Teachers can implement personalized assessment strategies to encourage students to reflect on their learning.</td>
</tr>
</tbody>
</table>

Source: Alberta Education

FACULTY SUPPORT AND PROFESSIONAL DEVELOPMENT

School leaders and other administrators should implement a systematic strategy to develop teachers’ capacity to differentiate instruction. The 2014 book Differentiating Instruction: Planning for Universal Design and Teaching for College and Career Readiness recommends that schools develop action plans to support differentiated instruction. These action plans should include specific activities to build capacity for differentiated instruction, such as those listed in Figure 1.7.

Figure 1.7: Capacity-Building Strategies to Support Differentiated Instruction

- Advocate for differentiated instruction
- Include collaborative planning and differentiation of instruction in formal job descriptions
- Build time for collaboration into the master schedule
- Create support groups for staff implementing differentiated instruction
- Provide professional development focused on differentiated instruction
- Publicly recognize teachers who have successfully implemented differentiated instruction
- Provide incentives for teachers who differentiate instruction in their classroom

Source: Differentiating Instruction: Planning for Universal Design and Teaching for College and Career Readiness

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47 Chart adapted from: Ibid.
**PROFESSIONAL DEVELOPMENT**

Schools should include professional development in their capacity-building strategies for differentiated instruction. Current teachers are likely not to have been exposed to differentiated instruction during their K–12 education, and need professional development to provide “role models to build on.”

A 2014 study published in the *Journal for the Education of the Gifted* finds that professional development can enhance teachers’ sense of self-efficacy with regards to differentiation. In return, teachers with high levels of self-efficacy are more likely to implement differentiation strategies.

Professional development should align with Washington’s standards for professional learning outlined in Figure 1.8.

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**Figure 1.8: Washington Standards for Professional Learning**

<table>
<thead>
<tr>
<th>Content</th>
<th>• Clear goals and objectives relevant to desired student outcomes that are aligned with state, district, school, and educator goals and priorities.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Process</td>
<td>• Based on data analysis and measured to determine that it meets targets; promotes collaboration and sharing of ideas to achieve identified goals; advances educators’ ability to apply professional learning to specific content; and models good pedagogical practice to engage educators</td>
</tr>
<tr>
<td>Context</td>
<td>• Uses relevant resources; facilitated by a professional knowledgeable about the objectives; and designed so sessions connect and build upon each other to provide a coherent and useful learning experience for educators.</td>
</tr>
</tbody>
</table>

Source: Washington Office of the Superintendent of Public Instruction

Individual teachers may need varying levels of support from professional development activities. Some teachers may already incorporate aspects of differentiated instruction into their teaching, and professional development should build on these practices. A 2009 book published by the ASCD recommends that schools differentiate professional development for teachers.

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COLLABORATIVE PROFESSIONAL DEVELOPMENT

The OSPI recommends incorporating collaboration into all professional development to support continuous improvement.\(^{52}\) Research also finds potential benefits of collaborative professional development specifically for differentiated instruction. A 2014 survey conducted by the Gates Foundation finds that 50 percent of teachers in schools with strong collaboration environments report that professional development effectively prepares them to differentiate instruction.\(^{53}\) The study rates the collaboration environments of schools using the aspects listed in Figure 1.9.

![Figure 1.9: Aspects of Teacher Collaboration](image)

| ▪ Formal collaboration time built into the master schedule |
| ▪ Shared instructional planning responsibilities (lessons planned in groups or on rotating basis) |
| ▪ Positive culture around collaboration (i.e., grade-level/ subject-area teams trust and support each other) |

Source: The Bill and Melinda Gates Foundation\(^{54}\)

Some schools combine different professional development methods to support collaboration. For example, a school described in a 2011 conference presentation to the American Educational Research Association (AERA) used a professional development model that combined individual coaching with professional learning communities (PLCs). This school used PLCs meeting semi-monthly to support collaborative reflection, with instructional coaching to provide individual support.\(^{55}\) Based on observations and interviews with three participants, the study finds that collaborative professional development drove changes to assessment and instruction and helped teachers differentiate content.\(^{56}\)

Administrators and instructional coaches can use classroom observations to monitor teachers’ implementation of differentiated instruction and suggest strategies that teachers can use to improve differentiation. Teachers can also use observation rubrics to monitor and develop their differentiation practices.\(^{57}\) Several organizations have developed proprietary observation forms or rubrics which are available for districts to purchase.\(^{58}\) Districts can also independently develop forms that align with local or state instructional standards.\(^{59}\)

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\(^{52}\) Murphy, Savath, and Miccio, Op. cit., p. III.


\(^{54}\) Chart contents taken directly from: Ibid.


\(^{56}\) Ibid., pp. 13–14.


National Association for Gifted Children (NAGC) recommends the process shown in Figure 1.10 below.

**Figure 1.10: Recommended Classroom Observation Process**

1. **Preparation**
   - The observer contacts the teacher to gain permission for the observation, explains the observation protocol, and finalize a time for the observation.
   - The observer should receive a copy of the teacher’s lesson plan.

2. **Pre-Observation Interview**
   - The observer informally reviews the lesson plan with the teacher before lesson delivery.

3. **Classroom Observation and Scoring**
   - The observer uses the relevant rubric or form to record indicators of differentiated instruction during the lesson.

4. **Post-Observation Debriefing**
   - The observer debriefs the teacher using a protocol outlined in the observation rubric.

5. **Reflection**
   - The observer provides any final comments.

Source: National Association for Gifted Children

**TECHNOLOGY RESOURCES**

Administrators should also prioritize budgeting for digital resources and technology training for faculty and staff. Technological resources allow teachers to differentiate materials, lessons, and instruction using video and audio formats. Technology resources may be particularly useful for differentiating instruction to support students with learning disabilities or special needs. Teachers may need to consult or work with technology specialists to design

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https://www.researchgate.net/file.PostFileLoader.html?id=573fde7ded99e1bc557818ff&assetKey=A5%3A364032491048960%4001463803517053

and implement projects that require students’ use of media resources.\textsuperscript{63} To identify technology resources that support differentiation, a 2014 article in the professional publication \textit{ASCD Express} recommends the process outlined in Figure 1.11.

\textbf{Figure 1.11: Process for Identifying Technology Resources to Support Differentiation}

1. \textbf{Identify student learning needs}

2. \textbf{Map learning needs to objectives for technology programs and interventions}

3. \textbf{Review evidence of the effectiveness of technology programs and interventions that align with learning needs}

Source: \textit{ASCD Express}\textsuperscript{64}

\begin{itemize}
\item \textsuperscript{63} Morgan, Op. cit., p. 37.
\end{itemize}
SECTION II: MULTI-TIERED SYSTEMS OF SUPPORT

In this section, Hanover Research discusses the use of a multi-tiered system of support (MTSS) framework to support differentiated instruction. The National Center on Intensive Intervention (NCII) defines a multi-tiered system of support as “a prevention framework that organizes building-level resources to address each individual student’s academic and/or behavioral needs within intervention tiers that vary in intensity.” 65 MTSS frameworks focusing on academic outcomes are often referred to as response to intervention (RTI), while MTSS frameworks focusing on behavioral outcomes are often referred to as positive behavioral interventions and supports (PBIS).

This section begins with a general overview of the MTSS framework, before discussing essential elements of MTSS. This section goes on to discuss administrative strategies to support the MTSS framework at the school and district level.

OVERVIEW

The Washington Office of Superintendent of Public Instruction (OSPI) defines MTSS as “an action framework that structures service delivery to assist staff and students to create a culture for learning.” 66 Figure 2.1 on the following page shows the Washington OSPI’s three-tiered framework for MTSS in both behavior and academic supports.

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Figure 2.1: Washington OSPI Framework for MTSS

The MTSS framework is distinct from differentiated instruction in that it focuses on providing more intensive instruction to students who do not respond to core instruction, rather than varying teaching strategies at the same level of intensity. MTSS encompass a wider range of supports than differentiation, including tutoring and pull-out supports. However, schools can use differentiation to support effective instruction within Tier I of an MTSS framework. The California Department of Education identifies differentiation as a core component of MTSS. Likewise, the National Association of School Psychologists (NASP) endorses differentiated instruction as a component of an MTSS system for academic instruction.

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67 Chart contents taken directly from: Ibid.
Schools should ensure that Tier I instruction is effectively differentiated before referring students for Tier II or Tier III supports. According to the OSPI, “differentiated instruction during core learning time is the first response for students who have not yet met academic and non-academic goals.”

**ESSENTIAL ELEMENTS OF A MULTI-TIERED SYSTEM OF SUPPORTS**

Several organizations have identified essential components of MTSS. Although organizations vary somewhat in their emphases, most lists of essential components include the use of data to support a problem-solving process. A 2015 report by the Center on Great Teachers and Leaders at American Institutes for Research (AIR) notes that MTSS requires “a continuum of resources that support the effectiveness of practitioners within a dynamic and collaborative problem-solving process.” The National Council on Response to Intervention (NCRTI) identifies the essential components of RTI and other MTSS frameworks shown in Figure 2.2.

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**Figure 2.2: NCRTI Essential Components of MTSS**

- **Multi-Level Prevention System**: Multi-level prevention system provides access to increasingly intense levels of instruction and interventions. It includes three levels of intensity or prevention: primary, secondary, and tertiary prevention. These levels are sometimes also called Tier I, Tier II, and Tier III.
- **Universal Screening**: Screening is a system for identifying students at risk for poor learning outcomes.
- **Progress-Monitoring**: Progress monitoring is a system for monitoring student progress and the effectiveness of the supports provided to students.
- **Data-Based Decision Making**: Data-based decision making occurs at all levels of MTSS/RTI implementation and all levels of instruction.

Source: National Center on Response to Intervention

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**UNIVERSAL SCREENING AND PROGRESS MONITORING**

Universal screening allows teachers to examine the performance of all students in a classroom or school to identify individual students in need of interventions or a need for...

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changes in the general instructional program. Classroom teachers compare individual students’ scores on screening assessments to benchmarks for the entire class and to expected performance to identify a need for individual or whole-class interventions. Discrepancies between scores for individual students and the class average suggest a need for secondary or tertiary interventions. If many students perform at lower than expected levels, teachers should consider changes to the general instructional program.76

The NCRTI recommends a two-stage screening process in which schools administer an initial screening assessment to all students at the beginning of the school year and conduct follow-up assessments of students who score below a certain cut point. Schools can opt to conduct repeated screenings at two or three points during the school year.77 According to the RTI Action Network, an initiative of the National Center for Learning Disabilities, effective universal screening instruments meet the criteria shown in Figure 2.3.

**Figure 2.3: Criteria for Effective Universal Screening Instruments**

| Sensitivity | • Effective screening instruments accurately predict students’ future performance on criterion assessments to identify students at risk for academic challenges. |
| Specificity | • Effective screening instruments also accurately identify students who are not at risk for academic challenges as measured by future criterion assessments. |
| Practicality | • Effective screening instruments are efficient to administer. |
| Consequential Validity | • Effective screening instruments can be administered without harming students or generating inequities, and lead to effective interventions. |

Source: RTI Action Network78

Schools implementing MTSS also conduct progress-monitoring assessments of students referred to secondary or tertiary interventions. Teachers use progress-monitoring assessments to support the development of individual interventions for students referred to tertiary interventions. Schools can use progress monitoring to identify students with disabilities and inform decisions regarding general instruction.79

The Vermont field guide to MTSS recommends that schools integrate progress-monitoring and universal screening assessments into a comprehensive and balanced system of both

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**formative and summative assessments.** Figure 2.4 shows assessment options for each assessment purpose within a balanced and comprehensive assessment system.

**Figure 2.4: Elements of a Comprehensive and Balanced Assessment System**

<table>
<thead>
<tr>
<th>ASSESSMENT PURPOSE</th>
<th>ASSESSMENT OPTIONS</th>
</tr>
</thead>
</table>
| **Screening**      | ▪ Dedicated screening tool  
                   | ▪ Formal review of existing progress-monitoring data  
                   | ▪ On-going formative assessment data |
| **Diagnostic**     | ▪ Standardized diagnostic assessment tools  
                   | ▪ Closer and more detailed analysis of existing progress monitoring data  
                   | ▪ Additional measures/data to get a more comprehensive picture  
                   | ▪ Observations, interviews, and work samples |
| **Progress Monitoring:** Formative | ▪ Any data that shows teachers what has been learned and what needs to be addressed through instruction  
                                      | ▪ Student engagement in the process is pivotal |
| **Progress Monitoring:** Periodic Benchmarking | ▪ On-going formative progress monitoring data  
                                          | ▪ Interim/periodic benchmark assessments  
                                          | ▪ Standardized outcome measures |
| **Outcome or Summative** | ▪ Standardized test data to assess outcomes  
                          | ▪ Benchmark progress monitoring data  
                          | ▪ Formative assessment data demonstrating learning |

Source: Vermont Reads Institute at the University of Vermont and Vermont Statewide Steering Committee on RTI[81]

**DATA-BASED DECISION-MAKING**

Effective MTSS frameworks use a problem-solving process to identify appropriate interventions for individual students. According to a 2011 guide for teachers prepared by the Florida Department of Education, problem-solving strategies ensure that instructional decisions reflect an equal focus on the student, the curriculum, and the classroom environment. The Washington OSPI recommends using the Plan-Do-Study-Act (PDSA) process shown in Figure 2.5.

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81 Chart taken with very minor alterations from: Ibid., pp. 28–29.

Figure 2.5: PDSA Cycle

Act: Act on evidence

Plan: Clarify intended outcomes

Study: Interpret evidence

Do: Elicit evidence

Source: Washington Office of the Superintendent of Public Instruction

PROJECT EVALUATION FORM

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