Problem-solving involves four basic steps within a cycle, it includes problem identification, problem analysis, intervention-solution planning and implementations, and evaluations of effect. When applied at multiple levels in education, for example, state, district, school, grade, disaggregated subgroup, class, or individual student, the fourth step of the problem-solving cycle involves evaluating the student's response to what has been implemented or provided by the system.
Selected Literature for Module 2

Describing the Components of the Problem-Solving Process

Iowa Department of Education


Problem-Solving and RtI: New Roles for School Psychologists


Go to the web addresses listed on the screen to download and read selected literature for this module.
When a concern about an individual student is expressed, two questions should be asked: “Why is the student experiencing a problem”? and “What can be done about it?”

In the past, educators have attempted to answer these questions with assessments aimed at finding a student eligible for special education services. Although this approach has made possible the provision of special education services to many students, it is also very problematic. The search for eligibility approach does not provide much specific information to answer the questions listed here for two important reasons. First, it only seeks to provide eligibility for a student to access services, and second, this approach does not address the specific problem the student was referred for in the first place.
The traditional psycho-educational evaluation explanation for why a student has a problem is circular reasoning. The student is not performing to expectations and benchmarks because he or she has a disability and the student has a disability because he or she is not performing to expectations. This circular reasoning provides little meaningful information to explain exactly what is causing the problem or what to do about it. Another difficulty with traditional psycho-educational evaluation is that it is not useful for planning interventions. Traditional psycho-educational evaluation has its most direct link to labeling, eligibility, and placement issues, and is remotely linked to intervention design. In other words, traditional psycho-educational evaluation is most useful for describing the student and his or her academic or behavioral problem, but is of little use in strategizing interventions. Systematic problem-solving makes use of procedures for generating and testing hypotheses about why students have performance problems. This problem-solving approach emphasizes assessment for intervention rather than assessment for placement in special education.
The problem-solving method can be applied to a student, a classroom, a school or an entire school district. Individual student issues that can be addressed using the problem-solving method include a range of both learning and behavior challenges. In the classroom, the method may be used to address learning issues, as when most of the class shares difficulties mastering long division; and discipline issues such as completing assignments without talking. The problem-solving method is efficient in attending to issues of an entire school building such as under-representation of minorities in advanced classes. Finally, districts may be faced with problems of bullying or truancy. The problem-solving method can be effective with these issues on the district level. When using the problem-solving method, the term “problem” might refer to any issue which needs to be addressed that is experienced by one or a number of students.
Problem-solving is a process designed to maximize student achievement, a method focused on outcomes, and a method to ensure accountability and intervention evaluation. It is all about student progress, regardless of where or who that student is.

Problem-solving is not a way to avoid special education placements or a less expensive way of schooling.
This is a visual model of the overall problem-solving process. The following is a detailed description of a systematic problem-solving process at work.
Define the Problem
• Defining problem/Directly measuring behavior
Problem Analysis
• Validating problem
• Identify variables that contribute to problem
• Develop plan
Implement Plan
• Implement as intended (include necessary supports to professionals and parents)
• Progress monitor
• Modify as necessary
Evaluate
• Was it effective?
• To what degree did student(s) respond?
• Was it effective?

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Problem Solving and Response to Intervention

The Problem-Solving Process on the Individual Student Level

- Identify Desired (Replacement) Behaviors
- Set Expectation Level
- Brainstorm Reasons Why Behavior is Not Occurring

The problem-solving process should begin by identifying the desired behaviors to replace the problem behaviors. This can be done in the form of a goal statement. A goal statement should be a specific behavioral description of the desired change in student performance. The goal statement must include a specific expectation level, which further defines the level at which the goal should be achieved. A goal statement should include three components, a specific behavior to be measured, the conditions under which that behavior will be exhibited, and a criterion or level of behavior that is to be achieved.

Once the goal statement has been developed, it is time to brainstorm reasons why this targeted behavior is not occurring. To do this, hypotheses are generated by formulating predictions about student behavior aimed to answer the questions: Why is this student experiencing a problem? What can be done about it?
This procedure forms a direct link between the assessment of a problem and the development of potential solutions to the problem. The hypotheses are tested by collecting data to support reasons. Data are collected through functional assessment, a process for reviewing meaningful, relevant information about the student’s problems. The purpose of this step is to answer specific questions about student functioning in particular settings through evidence acquired in past research and to relate these findings to the hypotheses. The information gathered in this step becomes helpful when planning effective individualized interventions or making specific educational decisions.

At this point, evidence-based interventions should be developed based on the data. These interventions should make use of the data collected through functional assessment and should typically be implemented by a team of individuals.

The effectiveness of these interventions should be evaluated on a regular and frequent basis. If the data from the progress monitoring show that the student is not making progress towards the acceptable level defined in the goal statement, the problem-solving team determines the next step. Possible steps might include: assessing intervention integrity by asking is the intervention being implemented as designed; continuing with the current intervention and monitor for change in performance; modifying the intervention in some fashion; ending the current intervention and implementing a new more appropriate or more intensive intervention.
Using a problem-solving process to help children who are struggling with reading is very effective.

Step one is to identify students who are at risk for failure through screening using highly sensitive instruments such as Curriculum-Based Measurement. Once the at-risk students are identified, interventions and strategies are implemented which seek to address and correct the problem identified.

In the next step, the students’ progress is monitored to ensure adequate progress is made. This is where an RTI framework is highly effective. If a student is not responding to the interventions, the team returns to the problem-solving method and begins to think about either increasing the level of intensity of interventions, for example, two times per week to four times per week or changing the intervention altogether if it is not meeting the student’s needs.

Finally, additional diagnostic assessments are administered to monitor the student’s progress and response to intervention.

Note that progress monitoring plans or PMPs are formal remediation plans for students who are struggling academically.
Screening Criteria:
- All K through Grade 5 students on PMPs
- Students in Grade 2 and 3 below 51 percentile on SAT-9
- Students below level 3 on FCAT-SSS or below 58 percentile on FCAT-NRT in grades 4-12
- Entering ESE students with IEPs focused on language deficits
- Students without a test score
- Students in Grade 2 and 3 below 51 percentile on SAT-9

Step 1: Screening
- Administer screening assessment(s) to those students who meet the Screening Criteria.

Step 2: Intervention
- Implement intervention programs/strategies determined by screening assessment(s) with fidelity as specified.

Step 3: Monitoring Progress
- Administer additional diagnostic assessment(s) based on monitoring assessment(s) to those students receiving interventions in order to measure adequate progress.

Step 4: Diagnostic Assessments
- Administer additional diagnostic assessment(s) to those students receiving interventions in order to measure adequate progress.
The problem-solving process can be applied to a response to intervention framework. In this framework, differing levels of intensity of interventions are provided to students based on their responses. The RtI model operates using three tiers.

Tier 1 involves problems that may be typically addressed in the general education classroom setting. This tier deals with universal interventions that are typically preventative and proactive as part of the core curriculum provided to all students. Parties involved in this tier might include all students, parents, general education teachers, site-based administrators, and instructional coaches. When approximately 80% of the students in the class are achieving the relevant benchmark, the problem is no longer considered a Tier 1 problem.

Tier 2 addresses targeted group interventions. Interventions at this level usually show high efficiency and rapid response. They target students who require additional academic support or acceleration beyond the core and are considered “at risk.” This includes approximately 15% of the students who require adjustment in instructional time and focus beyond what is provided in Tier 1. Persons involved again include parents, general education teachers, site-based administrators, and instructional coaches, but can now expand to school personnel and exceptional student education teachers.

Tier 3 is characterized by intensive, individualized interventions that typically are necessary for approximately 5% of students. These interventions are high intensity and assessment-based. They may require a longer duration of time for the students to reach an acceptable level of performance and/or rate of progress. Those involved include parents, general education teachers, site-based administrators, instructional coaches, school personnel, and exceptional student education teachers.

It is critical to use response to intervention within a problem-solving method in order to effectively adjust the levels of intensity of interventions for students in the most effective timeframe possible.
This example was adapted from a model developed by the Heartland Area Education Agency 11, Special Education Division, Johnston, Iowa. In this problem-solving model, the severity or intensity of the problem determines which of the school and support staff will work with parents and teachers to try to solve the problem. Consideration of the level of difficulty a student is experiencing and matching it with the necessary resources are referred to as “levels” within this problem-solving approach.

The student’s concerns are addressed by the parent and teacher working together with no additional resources in Level One.

Additional building staff are needed to address student concerns at Level Two. Most schools have teams of teachers called Student Assistance Teams who support teachers and parents as they address student problems. At this level, teachers will use more specific strategies to solve the problem and will closely monitor the results.

If the problem requires more specialized assessment and input, more staff are added to the problem-solving team at Level Three. Planning, documentation, and data collection at this level are very specific.

Within or beyond level three it may become clear that more resources and services are needed to address the student’s concern. Special education services may be considered.

The problem-solving method involves systematic use of data to drive decisions about which services will best meet each student’s needs. The process can be used for nearly any academic or behavioral problem that school personnel may be called upon to intervene. In both Iowa’s model and Florida’s model, the problem-solving process and response to intervention are intertwined. Both processes complement each other in that the problem-solving process seeks to identify and remedy the problem while response to intervention seeks to adjust the levels of intensity to match the student’s needs.
Within both the problem-solving process and response to intervention, the use of evidence-based interventions is critical. Evidence-based interventions are strongly supported in the revisions of IDEA 2004 and NCLB. Validated for the group or setting to which it will be applied means that the interventions selected through systematic problem-solving are supported through research to work with the particular population for which it will be applied.

Having staff skilled in implementing interventions is extremely critical. Implementation fidelity is closely related to the skill level of the person or persons responsible for implementation. Implementation fidelity refers to the degree to which an intervention is implemented as intended by research. Staff will need professional development and training in order to effectively implement the interventions selected through the problem-solving process. Additionally, procedures should be in place to monitor and evaluate the degree to which interventions are being implemented as intended.
As discussed previously, the problem-solving process can be implemented in virtually any domain. All school personnel can use the problem-solving process to assist students in achieving positive outcomes. Examples of interventions for each domain may include interventions targeting specifically the child; interventions targeting the family such as an intervention seeking to increase rates of reinforcement from parent to child in the home; interventions intended to take place in the classroom such as paired-reading interventions; interventions implemented by the child’s teacher, such as differentiated instruction for a mixed-ability classroom; interventions which would include peer tutoring; and curriculum-based interventions such as advanced story mapping for reading.

### Domains for Evidence-Based Interventions

- Child-based
- Family/Community-based
- Classroom-based
- Teacher-based
- Peer-based
- Curriculum-based
This flow chart of the Tier model illustrates the importance of using data to make decisions about students’ needs. The three tiers define the intensity and frequency of interventions not the type of student.

The first tier is universal in nature and therefore the focus is on the school or districtwide standards for educational success. Assessments at this level include universal state or countywide benchmarks, Adequate Yearly Progress, districtwide assessments such as a standardized review of reading and math skills three times a year. Any assessment that monitors and documents the rate of academic growth of all students would be considered in this tier. Interventions are implemented through schoolwide problem-solving, are evidence-based, and address the core curriculum. Most students will respond at this level; however, students who continue to lag behind the group on critical measures at this level are recommended for additional support at Tier 2.

Tier 2 is more specifically focused, as most students respond during tier one interventions. Benchmark assessments are used in this tier just as in the first tier. Assessments particular to Tier 2 include, but are not limited to, classroom observations, progress monitoring measures such as curriculum-based measures, work samples, and rating scales. This tier addresses barriers to learning and assesses outcomes related to these barriers. Interventions are typically designed to be used systematically across students, and are usually delivered in small groups. Some interventions used in Tier 2 are documented by behavior plans and academic improvement plans. Interventions are supplemental and focused, while progress is monitored more regularly at this level than in Tier 1.

Tier 3 support is much more intense and individualized than the first two tiers. Individual assessments are designed to measure student progress in the targeted learning areas to determine specific skill patterns for the purpose of developing effective instruction to remediate deficits. Assessments are comprehensive and diagnostic in nature, exploring learning behaviors directly related to the problem, in order to link these to interventions. Interventions are extremely specialized and require individual instruction. They may or may not include the provision of special education support. Progress monitoring is frequent.
Assessments

Universal/Benchmark
AYPDistrictwide Assessments
DIBELS/CBM
Office Discipline Referrals (ODRs)

Interventions

Core Curriculum
Evidence-Based
Schoolwide PBS

Tier One

Tier Two

Assessments

DIBELS/CBM
Classroom Observations
Work Samples
Rating Scales
Frequent/Authentic

Interventions

Supplemental
AET/Focused Instruction
Social Skills Training
Behavior Plans
PMPs

Tier Three

Assessments

Diagnostic
Comprehensive (RIOT)
Directly related to problem
Linked to Interventions
Evaluate Interventions

Interventions

Intense
Limiting curriculum
Specialized Instruction
Possible eligibility
Frequency/intensity are extraordinary

Response to Intervention: Definition

A systematic and data-based method for identifying, defining, and resolving students’ academic and/or behavioral difficulties

RtI will be discussed more thoroughly in Module #3.

RtI and problem-solving work in synergy. Utilizing the problem-solving method in a RtI service delivery model allows for the identification of desired behaviors whether academic or behavioral. Once the desired behaviors or skills have been identified, brainstorming reasons why the behavior is not occurring will allow for data collection to support and validate the reasons why the behavior may not be currently occurring.
Response to Intervention: Necessary Elements

- Identify the problem clearly

- Ensure adequate instruction in general education
  - Adequate Yearly Progress (AYP) data, districtwide assessment

- Identify that “discrepancy” exists – initial intervention

- Problem solve – intensive intervention in general education

- Use scientifically based interventions validated for target problem and ecological fit

RtI allows for differing levels of evidence-based interventions to be implemented within the problem-solving process to allow for greater flexibility as well as to meet the individual needs of the student. As a student improves with the implementation of validated interventions, the intensity of intervention may be decreased. Conversely, the student may need a more intensive intervention. RtI adjusts the level of intensity of interventions based upon the individual student’s needs.

The term “discrepancy” refers to a gap or difference in the performance level of the targeted student and that of his or her peers who are achieving benchmarks. This is not to be confused with the term “discrepancy model” used to describe the out-dated way of determining a specific learning disability by finding a discrepancy between a student’s IQ and achievement level.
Response to Intervention: Necessary Elements

- Implement for a reasonable period of time
- Monitor progress frequently, adjust interventions
- Monitor changes in levels of risk
- Data-based decision making

Successful interventions may require a reasonable to extraordinary amount of effort and time. An intervention may need to be in place extensively and throughout the day while being monitored frequently in order to be appropriate and successful for the student. Interventions may be unsuccessful. At this point, the team must assess the implementation integrity and provide support to the interventionist, either modify the intervention, or plan for a different, potentially more effective intervention. To do this, special resources may be needed.
Curriculum-Based Measurement, or CBM, is a method of monitoring students’ educational progress through direct assessment of academic skills. When using CBM the student is given timed samples or probes composed of material taken directly from the student’s academic school curriculum. The assessments are given systematically and are usually brief, lasting from one to five minutes. The student’s performance is scored for speed and accuracy. CBM probes are completed quickly and focus on a particular skill. Therefore, these probes can be given repeatedly. Data from these assessments can be charted to give the teacher information about the student’s rate of academic progress.

Behavior tracking can be any form of charting, or measuring, a student’s behavior over time. This may be done so that the student can observe visually her or his own progress or change in behavior, as well as to provide information about patterns of behavioral change to the student’s teacher or problem-solving team.

School data includes information required to be reported to the state; these data includes information about student and teacher demographics, class rosters, master schedules, attendance, referrals, FCAT scores, and stanines. Information from these reports can be used as yearly progress monitoring of school or districtwide problems.
The purpose of progress monitoring is to track the performance and progress of a group or individual student over time in a particular area such as reading, mathematics, on-task behavior, and attendance. The progress is charted on a graph so that performance can be compared to expectations for success.

Progress monitoring serves as a motivator to those who implement the program. It must be based on a "continuous progress" model. The expectations for program success must be realistic. The use of graphic representation is helpful.

**Progress Monitoring is designed to demonstrate the effectiveness of an intervention**

- Motivator to those who implement the program “continuous progress” model
- Realistic program expectations
- Use graphic representation
These are important summary points to remember!

AYP and Disaggregated Data move focus of attention to student progress, not student labels.

Building principals and superintendents want to know if students are achieving benchmarks, regardless of the student’s “exceptionality”.

Accurate “placements” do not guarantee that students will be exposed to interventions that maximize their rate of progress.

Effective interventions result from good problem-solving rather than good “testing”.

• Focus on student progress, not student labels

• Are students achieving benchmarks?

• Exposure to interventions that maximize rate of progress

• Good problem-solving, not good “testing”
School personnel need to be able to engage in the problem-solving process and know how to collect progress monitoring data. Collaborative consultation across disciplines such as school psychology, school counseling, school social work, special education, general education, and administration is necessary to develop appropriate interventions to address the array of student problems. School Personnel must understand the concept of RtI and must be able to apply it to the problem-solving process. All school personnel should be involved in the development of student progress monitoring plans or PMP.
You have completed training Module 2. Click the next button to complete the quiz.

This concludes Module 2 on problem-solving. Press the next button to complete the quiz.