Problem Solving Process

Identify the Goal
What Do We Want Students to Know, Understand and Be Able to Do? (KUD) CCSS

Did It Work?
Response to Intervention (RtI)

Problem Analysis
WHY are they not doing it? Identify Variables that Contribute to the Lack of Desired Outcomes

Implement Plan
Implement As Intended
Progress Monitor
Modify as Necessary
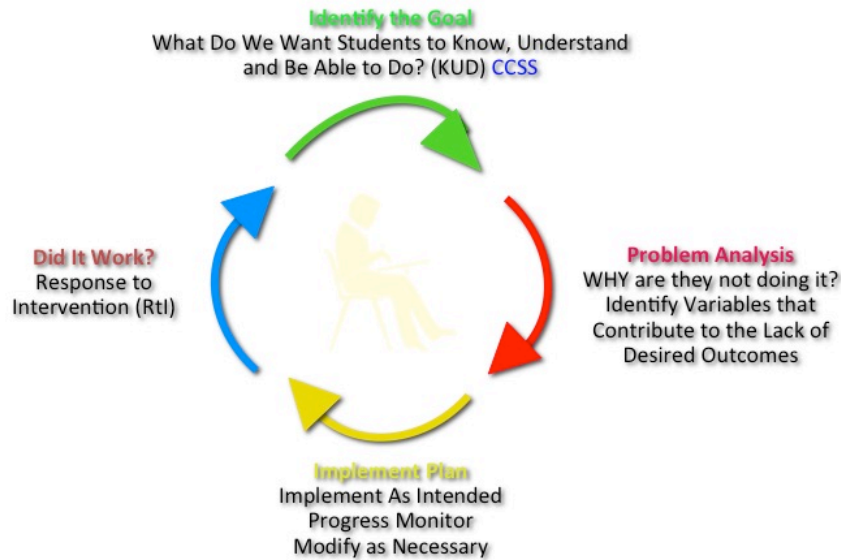
What do we need to know about the 4-step problem solving process?

A multi-tiered system of supports (MTSS) is an evidence-based system of schooling within which data-based problem solving is used to determine the intensity and focus of instruction/interventions designed to meet students' social, emotional, behavioral, physical, mental, and academic needs. This process is most effective when used by teams of educators with a variety of expertise to accelerate students educational performance. Family engagement is a critical element to ensure successful outcomes of the problem-solving process.

The 4-step process is a proven and well-established method of identifying, implementing and evaluating educational solutions that are designed to improve student growth and performance. The process enables teams of educators at the district and school levels to ensure that instructional resources reach the right students and schools at the right levels to accelerate the performance of every student to achieve and/or exceed proficiency with accepted academic (CCLS), behavioral and social/emotional standards. Simply stated, teams of educators engage in this process to more effectively and efficiently educate ALL students. The four steps are 1) IDENTIFY the desired GOAL 2) ANALYZE why the goal is not being attained 3) DEVELOP and Implement the instruction/intervention PLAN 4) EVALYATE the response to the instruction/intervention plan

Identify The Desired GOAL: What do we want the student(s) to know, understand, and do?
The Goal Identification step consists of five (5) elements.

1. **Goal Identification:** Identify the goal(s) (what we want students to Know, Understand and Do) which are the focus of the 4-step process. Academic goals should be aligned with the appropriate academic and/or behavior Standards. Behavior/social-emotional goals should be aligned with the behaviors expected to engage instruction and to promote social-emotional competency.
2. **Desired Level of Performance:** Clearly identify the level at which the student(s) are expected to perform, based on the appropriate standards (Learning goal, progression level, behavioral

expectation). This is the level at which students should perform based on age/grade and/or developmental standards.

3. **Current Level of Performance-**   Clearly identify the current level of performance on the goal(s) demonstrated by the student(s). The data collected should be valid and accessible data that reflect accurately the goal.   Examples would include accurate levels of reading skills (e.g., fluency, comprehension), levels of student engagement behaviors (e.g., on-task, asking questions) and social-emotional behaviors (appropriate interactions with peers, teachers).
4. **Peer Level of Performance-** Clearly identify the current level of performance for appropriate peers. The peer comparison group could include peers of the same race/ethnicity, gender, primary language, socio-economic status (F/R Lunch Eligibility), grade and disability status. The purpose of using peer data for GAP comparisons is to identify for whom the 4-step process is intended—the identified student(s) and/or the entire peer group.
5. **GAP Analysis-** the GAP is defined as the difference between the current level of performance and the desired level (amount of improvement to be attained), the difference between the student(s) who are the target of the instruction/intervention and the appropriate peer group (to determine the appropriate target-- student(s) or group)

     What are the critical outcomes for Step 1?
        a. Identify the goal that is the focus of the 4-step process.
        b. Identify expected levels of performance
        c. Determine current level of performance
        d. Make peer comparison (Determine if it is a Tier 1, 2, or 3 problem)
        e. Calculate difference between expected performance and current performance

Step 2: Analysis: Why is the intended goal not being attained?

6. **Problem Analysis:** Analyze the problem using data to determine why there is a difference between the expected and current levels of performance. Generate possible reasons (i.e., hypotheses) why students are not attaining the goal) that are founded in evidence-based content area knowledge, focused on alterable variables, and will ultimately lead to effective intervention. These hypotheses are typically generated across four domains: **Instruction, Curriculum, Environment, and Learner** (**ICEL**). Hypothesis statements are created in the format of "The goal is not being attained because ____(e.g., insufficient opportunity for practice of the skill). These statements are then paired with prediction statements in the form of "If _____ (If additional corrected practice occurs, then the (accuracy of the skill will increase)."

Data are collected to determine which hypotheses are most likely to be true (i.e., validate or refute). The methods of data collection include: **Reviewing** existing records/data, **Interviewing** individuals (student, educators, family, care providers) with specific knowledge of the situation being addressed, **Observation** of contexts (classroom, school, home, community) in which the desired skill(s) is expected to occur, and **Testing** to identify related learner characteristics. **R**eviewing, **I**nterviewing, **O**bservation, and **T**esting is commonly referred to as **RIOT**.

     What are the critical actions for step 2?
        a. Generate hypotheses across multiple domains
        b. Validate or refute hypotheses using RIOT by ICEL procedures

Step 3: Implementing a Plan: What are we going do to accelerate progress toward the goal?

Intervention Design: Develop and implement an intervention plan directly linked to the validated hypotheses. Ask, "What are we going to do about attaining the goal established in Step 1?" . A detailed plan that is matched to the hypothesis identified in Step 2 will increase the likelihood that the intervention will be effective. Simply put, if the plan is weak, the results will be weak. To ensure a strong plan, teams must include the following critical components:

- The instruction/interventions are **evidence-based** and linked to the validated hypotheses about why the goal is not being attained.
- The action plan has **sufficiency (**delivered in sufficient amounts) **and fidelity** (delivered in the way intended by individuals qualified to deliver the instruction) (Time, What, Who, Where, Monitoring/Follow-up/Fidelity).
- The plan reflects the **integration** of instruction, interventions and learning supports addressing all of the student(s)' areas of need and tying results back to success when engaged in Tier 1 instruction.
- The individuals implementing the plan have sufficient **support** (e.g., time, data, peer/coaching) to implement the plan as intended.

What are the critical actions for step 3?

  a. Link interventions to validated hypotheses
  b. Specify elements of a comprehensive instructional plan
  c. Ensure that Tier 1, Tier 2, and Tier 3 instruction/intervention are integrated and aligned.
  d. Ensure that the implementers have sufficient support to implement the plan as intended
  e. Before implementing the intervention, decide:
     What rate of progress will indicate that a response is positive, questionable or poor?
     What will instruction/intervention decisions will be made based if a response is positive, questionable or poor?

Step 4: Did the plan work?

Evaluation of Response to Instruction/Intervention Data: Evaluate the effectiveness of the plan by using data gathered from data collection (e.g., progress monitoring) at agreed upon intervals. Progress monitoring should directly assess the targeted skill(s). Use these data to determine if the Ask, "Is it working? If not, how will the instruction/intervention plan be adjusted to better support the progress?" Team discussion focuses on how to maintain or better enable learning for the student(s).

The effectiveness of the instruction/intervention design and implementation must be evaluated to make decisions regarding continuation, intensification, fading, or redesign of those instructional strategies. Progress monitoring data are used to make a determination of whether the effectiveness of the instruction/intervention is positive, questionable, or poor.

- Positive effectiveness is noted when the gap is closing and the point at which target student(s) will "come in range" of the academic and/or behavioral target.
- Questionable effectiveness is indicated when the rate at which the gap is widening slows considerably, but the gap is still widening or when the gap stops widening but closure does not occur.
- Poor effectiveness is suggested when the gap continues to widen with little to no change in rate of learning.

To take appropriate action the team asks, "What will we do when effectiveness is positive, questionable, or poor?"

- If the response is positive, options are to:
  a. Continue intervention with current goal
  b. Continue intervention with goal increased
  c. Fade intervention to determine if student(s) have acquired functional independence.

- If the response is questionable, teams need to:
  a. First ask, "Was intervention implemented as intended?"
     a. If no, employ strategies to increase implementation integrity
     b. If yes, increase intensity of current intervention for a short period of time and assess impact. If rate improves, continue. If rate does not improve, return to step 1 of the problem solving cycle.

- If response is poor, teams need to:
  - First ask, "Was intervention implemented as intended?
    - If no, employ strategies in increase implementation integrity
    - If yes, ask:
      - Is intervention aligned with the verified hypothesis? (Revisit Step 3: Plan)
      - Are there other hypotheses to consider? (Revisit Step 2: Analyze)
      - Was the problem identified correctly?   (Revisit Step 1: Define)

What are the critical actions for step 4?
  a. Monitor progress
  b. Determine student response to intervention
  c. Evaluate the sufficiency and integrity of the instruction/intervention
  d. Make instructional decisions based on student response

How do we ensure fidelity of implementation of the 4-step problem solving process?

In addition to monitoring the fidelity with which instruction and intervention are delivered, and the impact on student learning, it is critical to monitor *the degree to which we engage in the problem solving process* with fidelity. Multiple studies have demonstrated the positive effect on student learning when we focus on the process of problem solving (Flugum & Reschly, 1994; Telzrow, McNamara, & Hollinger, 2000; Burns, Peters, & Noell, 2008). Trained facilitators with a deep understanding of the 4-step process can both enhance team engagement in the process, and in addition, build the capacity of team members to do the same. Several tools are available to monitor fidelity of problem solving (PS/RtI Evaluation Tool Technical Assistance Manual, 2013, pp. 125-216). Training and technical assistance in the use of these instruments is available through the PS/RtI Project.

What references & resources can we use to learn more about the problem solving process?

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