

MODEL FOR ADDRESSING SYSTEM-LEVEL ISSUES THROUGH SYSTEMATIC AND STRUCTURED PLANNING AND PROBLEM SOLVING

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The effectiveness of this model depends on strict adherence to the following steps in the sequential order described and thoroughly completing one step before moving on to the next. For ease of presentation, each step is explained in terms of problem-solving procedures. However, the same steps would be used to achieve goals identified for the purpose of planning.

Step 1: Describe the problem to be addressed as concretely and in as much detail as possible. Once the problem has been defined, identify the desired outcome of the problem-solving efforts, again using concrete, descriptive terms. Often, what initially is thought to be a single problem, once analyzed, is recognized to be several distinct, although perhaps related, problems. Record all problems identified. Although all of the problems may not be dealt with during one session, those not dealt with can be addressed during subsequent sessions. Identify the specific problem that will be addressed *first*. Then, describe the desired outcome that would result from resolution of that one specific problem. It is essential that all members of the problem-solving team have the same understanding of both the problem to be addressed and the desired outcome.

Step 2: Analyze the specific issue chosen in terms of factors that might help in reducing or eliminating the problem (resources), as well as factors that might serve as barriers to its resolution. All members of the team should participate in a brainstorming process to generate a list of potential resources and barriers. The use of only concise statements should be encouraged. It is essential that ideas are not discussed, evaluated, or even clarified at this point. The intent is to produce as much information as possible by involving all members of the group in a free flow of ideas. Record only enough about each idea to allow clarification by its originator after brainstorming is completed. This is the problem analysis stage of problem solving and the intent is to develop a thorough understanding of the problem and its context.

Step 3: Select *one* barrier identified in step 2 that is important in terms of preventing resolution of the problem defined in step 1. The barrier selected should be viewed as only the first barrier to be addressed and not as the only one. Avoiding trying to identify the most important barrier will help diminish issues relating to ownership associated with who generated which ideas. However, the barrier selected should be one for which there is shared interest across the group. If the team is inexperienced in using systematic and structured problem-solving procedures, it also would be desirable to initially choose a barrier for which there is a reasonable chance of generating strategies for reducing or eliminating it. Experiencing success is important in developing team skills and confidence. Other important barriers can be identified for attention during subsequent efforts.

Step 4: By focusing on only the one obstacle selected in step 3 the team should brainstorm strategies that might be used to reduce or eliminate that specific barrier. The list of resources identified in step 2 serves only as a stimulus for the generation of ideas. Again, because a brainstorming process is being used, the intent is to generate and record as many ideas as possible. Specific ideas can be clarified after brainstorming is complete. Remind team members that this is only an *idea* stage. They should not filter out potential strategies because they are unsure of how the strategies would be implemented. At this stage, *no decisions have been made* regarding which strategies to use or how they will be implemented.

Step 5: Design multiple action plans to guide the implementation of the systems intervention(s) for the purpose of reducing or eliminating only the barrier identified in step 3. For each action plan, specify who will do what and by what deadline to promote accountability for completion. If possible, several action plans should be developed to address the same barrier. In that way, if one plan is not carried out as intended, or does not attain the desired results, the identified barrier still may be reduced or eliminated through other action plans. Each plan should clearly identify *who* (by name or position) is responsible for carrying out *what* specific activity (include as much detail as possible) and by *when* (the deadline for completion). The greater the detail provided in a plan, the greater the likelihood that it will be carried out as intended and on time. Sometimes it is desirable to try out an action plan on a limited scale before proceeding with full implementation. If the person identified as being responsible for the action plan is not a member of the group developing the plan, an action plan should be created that identifies a member of the group who will contact that individual about willingness to take responsibility for the action plan (what) and the date by which contact is to be made (when).

Step 6: Develop a plan for following up with each action plan/intervention that explains how implementation will be monitored as well as how support will be provided to the person responsible, if needed. Intervention integrity is as important in dealing with systems-level issues as it is in addressing client-specific issues. Failure to implement an action plan or not implementing the plan as intended by the team undermines the effectiveness of the change effort. A range of factors can represent potential barriers to the implementation of action plans. People typically have busy schedules and many other responsibilities under the best of circumstances. Follow-up procedures serve as a prompt for attention to the action plan in spite of other pressures. In addition, when unanticipated events crop up that require the time, energy, and attention of the individual responsible for a given action plan, follow-up procedures may provide a mechanism for securing additional resources or the services of other members of the team in pursuing the action plan.

Step 7: Develop a detailed plan that explains how data will be collected to evaluate progress at two different levels: (a) reduction or elimination of the barrier identified in step 3 and (b) progress toward attainment of the desired outcome of the problem-solving effort identified in step 1. For each level, the team should decide on the nature of the data that will be used to measure progress and who will collect the data and on what schedule. In addition, the team should decide before implementation of any action plan what would be considered an acceptable level of progress for each level. With regard to the desired outcome identified in step 1 in particular, multiple types and sources of data should be collected whenever possible.

Step 8: Describe the process and timeline for using data collected through step 7 to decide if satisfactory progress is being made toward reduction/elimination of the barrier and attainment of the desired outcome of problem solving as well as next steps in the problem-solving process. Depending on the level of progress being made toward reduction/elimination of a barrier, the team should decide whether the intervention should be continued as implemented, intensified, modified, or terminated. If the team does not believe that adjusting the intervention will attain the desired level of results, a new intervention should be developed. If it is decided that satisfactory progress is being made in addressing a specific barrier, depending on the availability of time and resources, the team may recycle to an earlier stage in the problem-solving process to address a new barrier.

ILLUSTRATIONS OF THE USE OF PRINCIPLES FOR CHANGE AND THE PLANNING AND PROBLEM-SOLVING MODEL TO IMPLEMENT CHANGE AT THE MACRO- AND MICRO-SYSTEMS LEVELS

The key principles discussed earlier and the specific model described above could be used to facilitate systems change at what would be considered a macro level (e.g., the design and implementation of a specific plan at a school building, district, state, or even national level). They also could be used to pursue systems change at a micro level (e.g., addressing a particular aspect of student behavior in the cafeteria, on buses, or in a specific classroom).

Implementation of the three-tier model is advanced in this publication as an effective and very likely necessary strategy for effectively meeting the needs of diverse learners as required by both NCLB and IDEA. However, implementation of the three-tier model represents a major school-wide change effort for most schools. Given the importance of such a change but the challenges that it represents, building-based implementation of the three-tier model will be used to illustrate the use of the principles for change and the specific planning and problem-solving model presented above to address macro-level systems change. While the following case is hypothetical, the information provided is based on the experiences of the authors while involved in systems change initiatives. This case represents a good example of the potential contributions of the school psychologist to systems change efforts. With knowledge and skills relating to human behavior, systems functioning, planning and problem-solving procedures, the three-tier model of service delivery, response-to-intervention (RTI), and academic and behavioral assessment and intervention methods, the school psychologist can be a valuable resource to school leadership.

Example of Macro-Level Systems Change

Owing to space limitations, some contextual and background information will be presented as if it had been previously generated and/or analyzed.

Context for change. Being located within a state in which the department of education is strongly supporting a three-tier problem solving/RTI model for responding to the needs of all students, and based on district-wide data that suggest that its students would benefit from such a change, Forward Thinking School District has decided to initiate implementation of a three-tier model, beginning with three elementary schools as pilot sites, with an initial emphasis on academic reading performance. Expansion to address other academic areas and behavioral issues would occur after the initial implementation phase. Progressive Elementary School is one of the schools selected as a pilot site. The building principal has a basic understanding of the model and believes her students will benefit from its implementation, the school psychologist is very familiar with the model and has good collaborative problem-solving skills and a relatively strong background relating to academic assessment and intervention methods, and the building staff includes a full-time reading specialist funded through a state Reading First project. To initiate the change process, the principal, assistant principal, school psychologist, reading specialist, and a district general education curriculum supervisor utilized the planning and problem-solving process.

Step 1: Statement of the problem/goal and desired outcome. The goal of the change effort was defined as the full implementation of a three-tiered problem solving/RTI model for addressing the academic needs of all students at Progressive Elementary school within 3 years. The model is to be implemented for grades K–1 by the end of year 1, grades 2–3 by the end of year 2, and grades 4–5 by the end of year 3. Among the desired outcomes are (a) the collection, visual presentation (e.g., graphing), analysis, and use of data to implement interventions that lead to improved reading performance; (b) data-based demonstration of improved reading performance based on achievement of state curricular benchmarks; and (c) use of scientifically based individual and/or group problem-solving methods by personnel as appropriate within the model.

Step 2: Analyze the organizational situation and identify resources and barriers to achievement of the desired outcome. The use of key principles discussed earlier (e.g., leadership, stakeholders, knowledge, and skills) would provide a framework for analyzing the organizational context. Each area, as well as others considered important, should be analyzed in as much depth as possible. Because of space limitations, only the area of key stakeholders will be addressed here.

Resources	Barriers
<ul style="list-style-type: none"> • Leadership understands the model and is committed • Some student services staff are committed and have needed skills (e.g., school psychologist, reading specialist) • Some of the classroom teachers agree with the principles, but do not understand the specifics of the model 	<ul style="list-style-type: none"> • Leadership is unsure how to address the many issues relating to implementation of the model • Some student services staff do not understand role within the model and lack problem-solving skills (e.g., counselor, social worker) • Some teachers believe the model is intended to keep students out of special education and will leave the students with greater needs but less support

Step 3: Select one barrier to achievement of the desired goal. The team identified the barrier of “Leadership is unsure how to address the many issues relating to implementation of the model” as the first to be addressed.

Step 4: Brainstorm ideas to reduce or eliminate the barrier identified. Ideas generated included:

- Confer with personnel in districts where the model has been implemented.
- Create a building-level implementation team.
- Identify and read relevant articles from the literature.
- Secure the services of an outside consultant familiar with the model.

Step 5. Design multiple action plans.

Who	What	When	Follow up
1. Veruca (principal)	Will invite individuals to be members of the building implementation team, ensuring representation of key stakeholder groups, including parents and grade-level representation of classroom teachers	5/26	Charlie (assistant principal) will contact on 5/19
2. Willy (school psychologist)	Will contact the director of psychology services with Out in Front School District concerning the operation and training for the implementation team	5/26	Charlie will contact on 5/19

Step 6: Establish procedures for follow up and support. See step 5.

Step 7: Develop an evaluation plan.

- Action Plan 1: At the planning group meeting on 5/27, confirm membership of the implementation team and ensure appropriate representation of all key stakeholder groups.
- Action Plan 2: At the planning group meeting on 5/27, confirm the availability of operational information and the person to conduct training for the team. Also confirm the date and time for the training session.

In the above example, the Building Implementation Team, once established and trained in the use of the three-tier model and in collaborative planning and problem-solving procedures, would become responsible for all aspects of implementation of the desired change in Progressive Elementary School.

Example of Micro-Level System Change

The above example illustrates a change initiative at the macro-systems level. To illustrate a change effort at the micro-systems level, we will assume that the above-referenced Building Implementation Team has been established with appropriate representation, has been trained in relevant knowledge and skills, and has moved forward with implementation of the three-tier model. As part of the on-going evaluation of the implementation process, the team becomes aware of specific aspects of the use of the three-tier model that are not functioning effectively. Employing the collaborative planning and problem-solving model described above, the implementation team systematically addresses each issue.

Original concern. During a Building Implementation Team meeting, a team member raises a concern regarding the fact that many teachers are not bringing student data to problem-solving team meetings. Established procedures for the problem-solving team require teachers to bring academic and/or behavioral data relevant to the referral concern to the team meeting. Teachers are currently bringing relevant data to the meetings only about 20% of the time.

Step 1: Statement of the problem and the desired outcome. The team identifies “teachers not bringing academic and/or behavioral data relevant to the referral concern to problem-solving meetings” as the problem. All members agree that the desired long range outcome would be “all teachers will bring academic and/or behavioral data relevant to the referral concern to every meeting.” The interim goal is for teachers to bring relevant data to 80% of team meetings by the end of current school year.

Step 2: Analyze the problem and identify resources and barriers to the achievement of the desired outcome.

Resources	Barriers
<ul style="list-style-type: none"> • Staff meetings for discussion and information sharing • Grade-level meetings for discussion and information sharing • Personnel familiar with data collection procedures and data available • District supports use of the problem-solving model • Articles for teachers on data collection and problem-solving procedures • Training through the district • Meeting reminders 	<ul style="list-style-type: none"> • Teachers do not know why they are collecting data • Lack of teacher time • Not easy to use database • Some teachers disagree with use of the problem-solving model • Lack of teacher skills in data collection and problem solving

Step 3: Select one barrier. The problem-solving team identified teachers who do not understand why they are collecting data as the first barrier to address.

Step 4: Brainstorm ideas to reduce or eliminate the barrier identified.

- Presentations to staff on importance of collecting data
- Use grade-level meetings to discuss data collection issues
- Use inservice days to provide additional training
- Contact the district to inquire about training opportunities/resources
- Write an article for the school newsletter on data collection and problem solving
- Disseminate publications on use of data in problem solving to teachers

Step 5: Design multiple action plans.

Who	What	When	Follow up
1. Willy and Veruca	Present on collecting data and use of data in problem solving at the staff meeting	2/6	Charlie will contact Willy and Veruca on 1/30
2. Willy and Violet (reading specialist)	Schedule meetings with grade-level teams to discuss data collection and respond to teacher questions/concerns	By 1/30	Charlie will contact Willy and Violet by 1/27
3. Violet	Write an article on data-based decision making for the newsletter; include responses to teacher questions	By 2/13	Charlie will contact Veruca by 2/4

Step 6: Establish procedures for follow up and for providing support. See the table for step 5.

Step 7: Develop an evaluation plan. Selected barrier: Teachers do not understand why they are collecting data.

Who	What	When
1. Willy	Administer a survey prior to implementation of interventions to assess teachers' current knowledge and beliefs regarding data collection and the role of data in problem solving	By 2/3
2. Willy	Administer a survey following implementation of interventions to assess teacher's knowledge and beliefs on data collection and problem solving	By 2/24
3. Willy	Present results of the pre- and post-intervention surveys to the leadership team to inform further problem-solving.	By 3/12

Desired outcome (interim goal): By the end of the current school year, teachers will bring relevant data to 80% of problem-solving meetings. The long-term goal is for all teachers to bring relevant data to all meetings.

Who	What	When
1. Charlie	Determine the proportion of teachers bringing relevant academic and/or behavioral data to problem-solving team meetings	Bi-weekly
2. Charlie	Present data on the proportion of teachers bringing relevant assessment data to problem-solving meetings to the leadership team to inform further problem solving; the goal for the end of the year is for teachers to bring relevant data to meetings 80% of the time	Bi-weekly

4-Step / 8 Step Problem Solving Processes Crosswalk

<p>Problem-Solving Model</p>	<p>----- <i>connections</i> -----</p>	<p>Small Group Planning Process</p>
<p>Step 1: Problem Identification</p>	<p>The function of this step is to identify the problem or goal in concrete, descriptive, behavioral, measurable terms.</p>	<p>Step 1: Establish priority; define <u>Desired Outcome</u> and how it will be measured</p>
<p>Step 2: Problem Analysis</p>	<p>This step is designed to identify the reasons why the goal has not yet been achieved. Hypotheses targeting barriers to success are considered and those most likely to be impeding goal achievement are specified for further plan development.</p>	<p>Step 2: <u>Brainstorm</u> resources/positive factors <i>and</i> potential obstacles</p> <p>Step 3: <u>Identify</u> one barrier and identify in behaviorally descriptive terms</p> <p>Step 4: <u>Brainstorm</u> strategies to reduce or eliminate identified obstacle</p> <p>Step 5: <u>Develop multiple action</u> plans to reduce or eliminate identified obstacle: who, what, by when</p> <p>Step 6: <u>Specify follow-up plan</u> for each action plan (verification and evaluation)</p>
<p>Step 3: Intervention Design</p>	<p>Based upon verified hypotheses and/or identified barriers, comprehensive intervention plans are created with detailed direction as to what, and when specific instruction/intervention activities will occur, including the identification of personnel to implement the instruction/intervention and the support structured for them.</p>	<p>Step 7: Develop plan for evaluating reduction or elimination of identified obstacle</p> <p><i>REPEAT PROCESS (STEPS 3 – 7) FOR ALL BARRIERS IDENTIFIED IN STEP 2</i></p> <p>Step 8: Develop plan for evaluating progress toward achievement of desired outcome</p>
<p>Step 4: Response to Intervention</p>	<p>Plans for gathering the data necessary to determine the effectiveness of the instruction/intervention are made and rules for the determination of good, questionable, or poor response are created. Data are then collected and evaluated to inform subsequent instruction/intervention.</p>	