PLANNING, SELECTING, IMPLEMENTING, AND EVALUATING EVIDENCE-BASED INTERVENTIONS AND PROGRAMS

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This document is based on a chapter in a forthcoming book co-authored with Drs. Ron Martella and Nancy Marchand-Martella.

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OVERVIEW

The three primary goals of school-wide positive behavioral intervention and support programs are to (a) establish effective policies and procedures that create positive norms for behaviors, (b) improve the ecological arrangements of the school, and (c) identify and select evidence-based interventions and programs. The focus of this document is how to plan, select, implement, and evaluate individual and academic support interventions and programs (i.e., the fifth and sixth organizational systems of the School Evaluation Rubric [SER]) that have been validated through experimental studies or rigorous evaluation designs. Research has demonstrated that educators and others should be cautious when selecting interventions or programs because not everything done in the name of school-wide discipline or violence prevention shows promise. For example, the most common treatment for students who exhibit problem behaviors is insight-based counseling despite the fact that research has demonstrated that it is ineffective (Sherman et al., 1998).

Students who experience behavior and academic problems are at risk of school failure. Although such students are consistently among the highest priority of schools and communities, they are the least well-served segment of the school population. For example, it is conservatively estimated that around 8% of school-age students have significant emotional and behavioral disorders (Walker, 2000). Furthermore, the results of the National Assessment of Educational Progress (NAEP, 1998), a longitudinal study of educational progress, indicate that 25% to 40% of American children are imperiled because they do not read well enough, quickly enough, or easily enough to ensure their success in school. The response of schools to these problems tends to be reactive rather than proactive. This is unfortunate because we have the means with which to respond effectively to the academic and behavior problems that place students at risk for school failure.

In most cases, the failure of schools to plan, select, implement, and evaluate interventions and programs actively is, at least in part, a function of the fact that doing so appears to be an overwhelming task for members of a school leadership team to undertake. This is especially the case if the team has never been involved in such an effort. In this document, we describe the steps a leadership team can use to plan, select, implement, and evaluate evidence-based interventions and programs. It is important for members of the leadership team to keep in mind that as long as the school fails to address academic and behavior problems, they will continue to plague the daily operation of the schooling process. Moreover, failure to address these problems proactively will result in a massive waste of human potential with all of its accompanying problems.

This document describes a systematic process for identifying and describing the specific problems faced by schools, selecting strategies, interventions, and programs to prevent and remediate the problems, and implementing and evaluating those strategies, interventions, and programs in schools. We begin by defining key terms associated with the development and implementation of effective proactive interventions and programs to address the behavioral and academic problems of students. These definitions are followed by a description of the process used to plan, select, implement, and evaluate such interventions and programs. The process is described in six sections: (a) identifying and describing the problem, (b) developing capacity to address the problem, (c) selecting the target group and setting, (d) selecting interventions and programs, (e) implementing and sustaining interventions and programs, and (f) evaluating interventions and programs.

WHAT ARE THE KEY TERMS?

It is important to define three terms that are used in the prevention field and that will be used throughout this document: strategy, intervention, and program. These terms are often used differently in education. We have defined them here so you know how they are used in the prevention field and in this document and how they are related to one another.

Strategy

A strategy is a general conceptual approach or framework for preventing or remediating academic and/or behavior problems. The defining attribute of a strategy is that it is a general or conceptual approach rather than a specific set of activities and associated materials or procedures (i.e., interventions). Often schools will initially identify a strategy that is then formalized as an intervention. For example, conflict resolution can offer basic training in social and problem solving skills for students. Or, one-to-one tutoring in reading can offer basic training in key beginning reading skills for students.

A risk factors exposure model for explaining outcomes is often used in the prevention field (Hawkins, VonCleve, & Catalano, 1991; Lynam, 1996). This model is rooted in the notion that pervasive exposure to key risk factors is associated with negative, destructive long-term outcomes (Patterson, Reid & Dishion, 1992). Empirical evidence suggests that this process likely operates in the following manner: (a) children and youth are exposed to a host of risk factors over time (e.g., dysfunctional families, drug and alcohol use by primary caregivers, child neglect/abuse, unemployment, lack of school readiness, ineffective school practices, reading failure); (b) these risk factors are associated with the development of maladaptive behaviors (e.g., defiance of adults, restlessness and overactivity, aggression, lack of self-regulation, disruptive classroom behavior, inability to focus and sustain attention, hostile attitudes toward school); (c) short-term outcomes include truancy, peer and teacher rejection, low academic achievement, school discipline contacts and referrals, and a larger than normal number of schools attended; and (d) these short-term outcomes, in turn, are predictive of much more serious, longer-term outcomes including emotional disturbance, school failure and dropout, delinquency, drug and alcohol use, gang membership, adult criminality, and, in some cases, serious violent acts (Cicchetti & Nurcombe, 1993).

Intervention

An intervention is a specific set of activities and associated materials developed to prevent or remediate academic and/or behavior problems. The defining attribute of an intervention is that it is a specific set of activities and associated materials or procedures rather than a general or conceptual approach (i.e., strategy). For example, Promoting Alternative Thinking Strategies (PATHS: Greenberg, Kusche', & Milhalic, 1998) promotes prevention of violence, aggression and other behavior problems, improvement of critical thinking skills, and the development of emotional literacy, social problem solving skills and interpersonal competence for all children in all settings in grades K-6. The PATHS curriculum is organized into three units: (a) self-control, (b) feelings and relationships, and (c) interpersonal cognitive problem solving.

Additionally, in any school, we can identify three types of students: (a) typical students not at risk for academic and/or behavior problems, (b) students at-risk for developing academic and/or behavior problems, and (c) students who show signs of life-course-persistent academic and/or behavior problems (Moffitt, 1994; Walker et al., 1996). Members of each group are candidates for differing levels or types of intervention that represent greater specificity, comprehensiveness, expense, and intensity (Reid, 1993). The interventions appropriate for each child group are primary, secondary, and tertiary forms of prevention.

1. Primary. Primary interventions focus upon enhancing protective factors on a schoolwide basis so that students do not become at-risk. Interventions used for primary prevention are universal--all students receive the services.

2. <u>Secondary.</u> Secondary interventions provide behavioral, social, or academic support, mentoring, skill development, and assistance to at-risk students. Students who do not respond to universal interventions or demonstrate too many specific risk factors are candidates for secondary prevention services.

3. <u>Tertiary.</u> Tertiary interventions are appropriate for severely involved children who evince a life-course persistent pattern of academic and/or behavior problems. Successful interventions for these students are likely to be comprehensive; intensive; long term, involve parents, siblings, peers, and natural supports; and be collaborative across individuals and agencies.

Strategies that encourage interventions at all three of these prevention levels are needed. To be maximally effective, primary, secondary, and tertiary interventions must be directly linked to and coordinated with each other within the context of the program (described below). In other words, primary, secondary, and tertiary prevention services and interventions should be available along a continuum within a program.

Program

A program is a grouping of interventions designed to prevent or remediate academic and/or behavior problems. The defining attribute of a program is that it includes a set of activities and associated materials or procedures rather than an individual intervention. For example, Nelson, Martella, and Marchand-Martella (2000) developed the Effective Academic and Behavioral Intervention and Support (EABIS) program using the SER. EABIS is a multilevel school-wide positive behavioral intervention and support program that provides a continuum of primary, secondary, and tertiary forms of interventions and supports for preventing problem behaviors.

The primary level intervention was a school-wide discipline program that had four components: (a) effective ecological arrangements of the common areas of the school (e.g., hallways, cafeteria, restrooms, playground), (b) clear and consistent behavioral expectations, (c) active supervision of the common area routines to prevent disruptive behavior and to respond effectively when it occurs, and (d) the Think Time Strategy (i.e., empirically validated disciplinary response used by classroom teachers and playground/lunchroom supervisors), which is designed to stabilize how staff respond to problem behaviors in the classroom.

EABIS included three secondary level interventions: one-to-one tutoring in reading, conflict resolution, and family management training. Sound Partners was used to provide one-to-one tutoring in early reading skills to first grade students at highest risk of reading failure and remedial second and third graders (Vadasy, Jenkins, Antil, Wayne, & O'Connor, 1997). Talk it Out was used to teach the background knowledge necessary for children who are having conflicts to meet and resolve them (Porro, 1996). Finally, the family management program consisted of the videotape SOS Help for Parents (Clark, 1996) and two consumer friendly handouts for parents. A family intervention specialist (i.e., school counselor, school psychologist, or school social worker worked with the parents of children exhibiting problem behaviors to implement the program.

Functional behavioral assessment (FBA) and behavioral intervention plan (BIP) process and strategies served as the tertiary intervention. The FBA and BIP process were based on those procedures developed by Nelson, Roberts, and Smith (1999). Teachers used FBA procedures to (a) identify the function of the problem behaviors (i.e., attention-seeking, escape/avoidant, autonomic, and multiple functions); (b) identify the conditions under which problem behaviors occur and do not occur; and (c) formulate a hypothesis regarding the function of the behaviors. Teachers then developed a BIP based on the identified function.

In summary, strategies, interventions, and programs are not only related to one another but also depict the evolution of the comprehensiveness of a school-wide positive behavioral intervention and support program over time (see Figure 5.1). As depicted in Figure 5.1, initial discussions among members of the leadership team focus on the strategy or approach used to address a particular problem. Once a strategy is identified and adopted by the members of the leadership team, they plan, implement, and evaluate a particular intervention (i.e., specific set of activities and associated materials or procedures). Over time the members of the leadership team often develop a program such as EABIS that includes several interventions to address the full array of factors underlying the academic and behavior problems faced by the school.

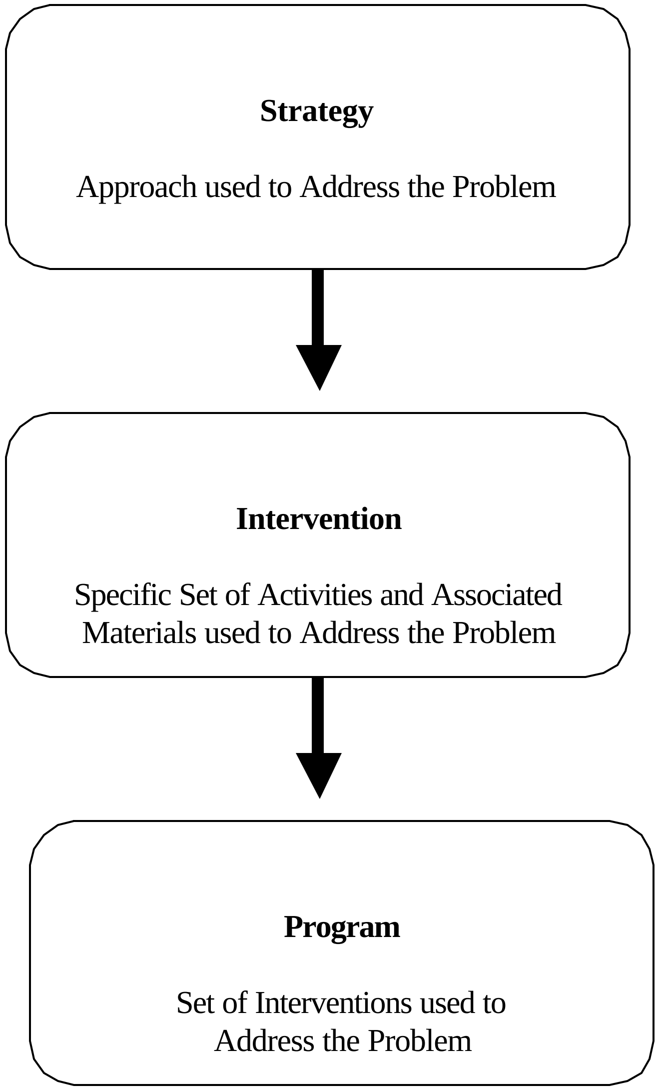

Figure 5.1. Relationship between strategy, intervention, and program

HOW DO WE IDENTIFY AND DESCRIBE THE PROBLEM?

The first step in planning, selecting, implementing, and evaluating an intervention or program is the identification and description of the behavioral and/or academic problem of concern. The goal of this first step is to identify who is affected most by the problem and what is the most frequently occurring problem or set of problems. (We use the singular term throughout the remainder of this document even though schools typically must address multiple problems.) Identifying who is affected and what is the most frequently occurring problem will enable the members of the leadership team to more directly target an intervention or program. Additionally, identifying and describing the problem will provide baseline information with which to set realistic goals (e.g., reduce disciplinary actions by 50%) and to evaluate the effectiveness of the intervention or program. Describing the problem and establishing baseline information will also help the members of the leadership team to achieve consensus among the staff that the intervention or program is necessary because it will address an issue with which they are struggling (e.g., reading failure).

Information or data needed to identify and describe the problem can be obtained from several sources. These information sources can be categorized into two primary categories: opinion and factual. Opinion information is often collected through interviews and surveys. Although members of the leadership team often rely solely on such information when identifying and describing the problems of the students they serve, doing so may not present an objective description of the problem. It is critical for schools to collect opinion information in combination with factual data to ensure they have a clear and accurate description of the problem. Moreover, we recommend that opinion information be used to direct the collection of factual information (e.g., determine staff's views of the most critical needs). Factual information is quantitative in nature and should be collected in a systematic manner to ensure that it provides accurate and reliable data with which to make decisions. To this end, we describe a multiple gating procedure that schools can use to identify and describe the most critical problems of the students they serve.

Opinion Information

Methods for collecting opinion information primarily include surveys and interviews. Regardless of the method of data collection, the staff need to understand how their responses will be treated including the level of confidentiality. One advantage of surveys over interviews is that the information can be collected from a relatively large number of staff rather than a small number in the case of interviews.

Surveys and interviews to collect information with which to identify and describe can be targeted (i.e., focused on a specific academic or behavior problem) or exploratory in nature (i.e., used to identify potential academic and/or behavioral problems). Regardless of the focus, members of the leadership team should consider the following issues when designing a survey or interview.

1. Who should be surveyed or be interviewed? One factor that the memberof the leadership team should consider centers on who should be surveyed or interviewed. Should the entire staff be targeted? Or, should a specific group be designated? Respondents, even within a school, are less likely to complete a survey if it is general in nature. In such cases, the members of the leadership team may want to consider asking the staff to complete a survey at a designated time during a meeting to ensure high rates of participation on the part of staff (or others such as parents). Additionally, achieving a high response rate is important to provide a more complete picture of staff views of a particular issue.

2. Question format. Another factor that the members of the leadership team should consider focuses on the question format. Two categories of question formats are available to the members of the leadership team: open-ended and close-ended questions. In the case of open-ended questions, respondents are asked to provide their own answers to questions. For example, respondents might be asked "What do you think is the most important student-related issue that the school should address?" and provided a space to write in their answers or report them verbally to interviewers. The primary shortcoming of open-ended questions is that information gained from such questions is usually incomplete, not comparable across respondents, and difficult to summarize.

In contrast, in the case of close-ended questions, respondents are asked to select their answers from among those provided by the members of the leadership team. Using the preceding example, respondents might be asked to choose the most important student-related issue facing the school from a list of possible issues provided by the members of the leadership team (e.g., reading failure, disruptive behaviors, parent involvement). Additionally, close-ended questions enable a variety of scales (e.g., Likert, forced choice) to be used. In the case of Likert scales, respondents are presented with a question and are asked to indicate whether they "strongly agree," "agree," are "undecided," "disagree" or "strongly disagree." The primary shortcoming of close-ended questions lies in how members of the leadership team have chosen and structured the possible questions.

3. Content of questions. Prior to formatting and sequencing the questions, the members of the leadership team should explore whether the draft questions are consistently understood and answered by

respondents as expected before conducting the survey or interview formally. This can be accomplished by testing the questions with a small number of representative staff. Members of the leadership team should interview these individuals regarding the content and response format. The goal is to assess whether staff's comprehension and responses are consistent with the goals of the survey or interview.

4. Formatting and sequencing questions. The primary goal when formatting and sequencing the questions is to minimize the work of respondents and any potential biasing effects associated with the sequencing of questions. Some general guidelines include: (a) layout of survey should be attractive, clear, and uncluttered, (b) instructions should be self-explanatory, (c) consistent question formats and responses should be used, and (d) length and time to complete the survey should be minimized.

In summary, opinion information can be used, at least in part, to identify and describe the problem or set of problems that staff view as important. It is important to keep in mind that opinion data by itself are not that useful for providing objective information with which to identify and describe the problem. In the following section, we describe a multiple gating procedure for providing factual information with which to describe and identify the problem.

Factual Information

Some form of a multiple gating procedure is the most effective strategy for collecting factual information. This information is used to identify and describe the most critical student-related problem to be addressed by the school (see Figure 5.2). Multiple gating procedures focus on teachers because they are the primary link between a student who is experiencing academic and behavior problems and intervention services. Classroom teachers have extensive knowledge of the academic and behavioral characteristics of the students in their classroom and are well positioned to provide invaluable information on academic and behavioral problems that need to be addressed in the school. Multiple gating procedures can use the considerable knowledge and expertise of teachers to develop proactive primary, secondary, and tertiary forms of interventions. However, keep in mind that teachers are not encouraged or trained to identify and refer students with academic and behavioral problems unless a child is extremely disruptive or is experiencing significant academic deficits. Thus, the members of the leadership team will have to develop a structured multiple gating procedure to tap into teachers' knowledge of the academic and behavioral characteristics of students.

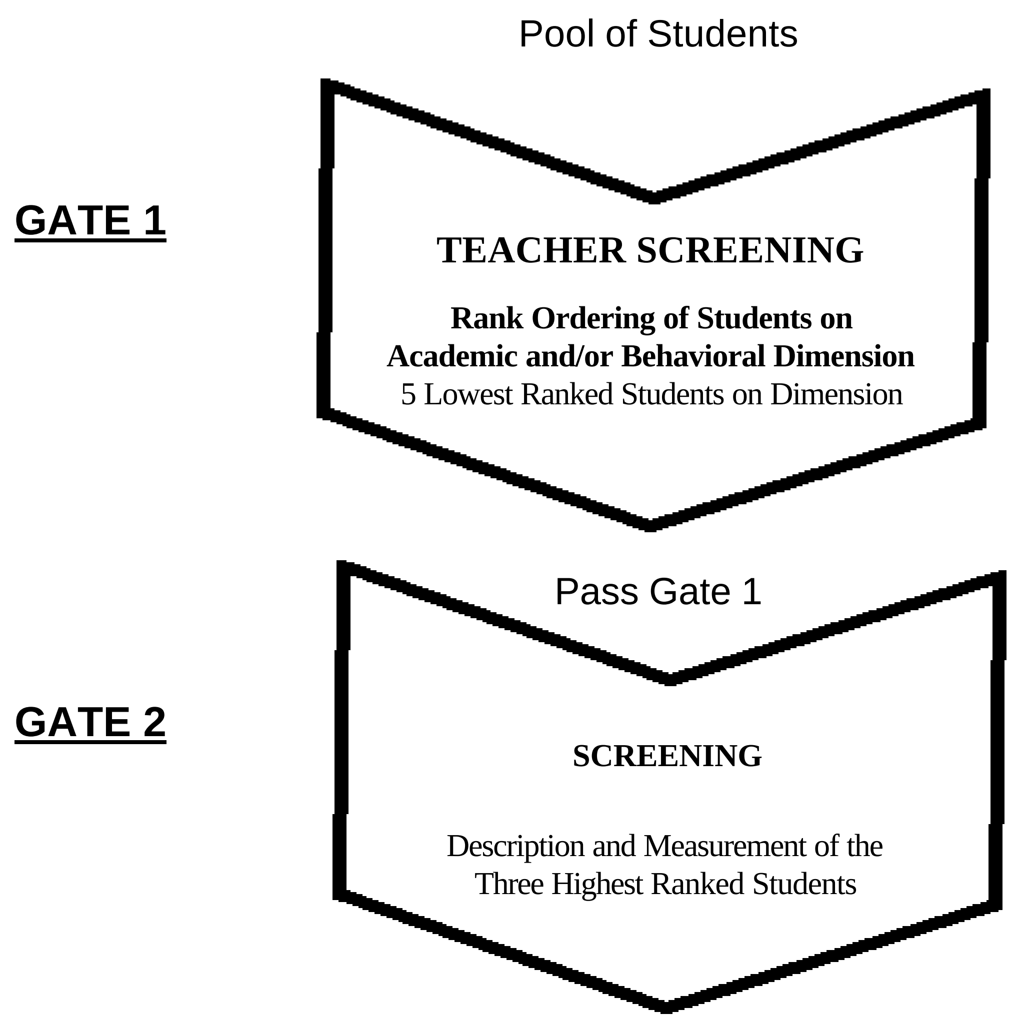

Figure 5.2. Multiple gating procedure for identifying problems

Figure 5.2 graphically illustrates a two-stage multiple gating procedure, based on the work of Walker and Severson (1990), which can be used to identify and describe the most critical problem to be addressed by the school. At the first stage, a low-cost screening procedure is used to identify students who may be at risk academic and/or behavioral problems. Stage One rank ordering of students is designed to give each child in the school an equal chance of being identified for the social and/or academic dimension of interest. Stage One relies totally on teacher judgment. Research has demonstrated that teachers' rankings are valid when provided a clear description of the academic or social dimension of interest (Walker et al., 1991). For example, in the case of social behaviors, the teachers' ranking can be made in relationship to the externalizing or internalizing behavioral profiles developed by Walker and Severson (1990). Similar specific definitions could be developed for academic dimensions of interest.

1. Externalizing. Externalizing refers to all behavior problems that are directed outwardly, by the student, toward the external social environment. Externalizing behavior problems usually involve behavioral excesses (i.e., too much behavior) and are considered inappropriate by teachers and other school personnel. Examples of externalizing behavior problems include such things as:

- displaying aggression toward objects or persons,
- arguing,
- forcing the submission of others,
- defying the teacher,
- being out of the seat,
- not complying with teacher instructions or directives,
- having tantrums,
- being hyperactive,
- disturbing others,
- stealing, and
- not following teacher- or school-imposed rules, and so forth.

2. Internalizing. Internalizing refers to all behavior problems that are directed inwardly (i.e., away from external social environment) and that represent problems with self. Internalizing behavior problems are often self-imposed and frequently involve behavioral deficits and patterns of social avoidance. Examples of internalizing behavior problems include such things as:

- having low or restricted activity levels,
- not talking with other children,
- being shy,
- being timid and/or unassertive,
- avoiding or withdrawing from social situations,
- preferring to play or spend time alone,
- acting in a fearful manner,
- not participating in games and activities,
- being unresponsive to social initiations by others, and
- not standing up for one's self.

Providing clear definitions and criteria for teachers' judgment increases the objectivity of the screening process. Using the clear definition and criteria, teachers typically follow a two-step screening procedure. First, teachers are asked to identify groups of students in their classes whose characteristic academic and/or behavior patterns closely match the dimension of interest. Second, teachers then rank order students according to the extent to which each one matches the academic and/or behavioral dimension of interest. This two-step procedure results in (a) the identification of the students who most exhibit the academic and/or behavioral dimension of interest and (b) the extent of the problem. An example of a Stage One form used by an elementary school to identify students who are at risk of reading failure is presented in Figure 5.3.

The specific directions for completing the two-step screening procedure at Stage One follow:

1. <u>Step One</u>. Carefully study the definitions and examples of … (academic and/or behavioral dimension of interest) and select eight students whose academic and/or behavioral profile most closely matches it. Ordering or magnitude are not important at this point. The goal is to simply identify students whose academic and/or social behavioral profile is consistent with the definition.

2. <u>Step Two</u>. Rank order the eight students on … (the academic and/or behavioral dimension of interest) according to the degree to which their academic and/or behavioral profile matches the definition of the dimension of interest. Keep in mind that the names of the students in columns 1 and 2 are the same. However, the students in column 1 are not rank ordered according to the extent to which their academic and/or behavioral profile aligns with the definition.

Teacher: ___________________ Class: ___________________ Date: ___________________

Instructions.

1. Study the definition of reading failure.
2. In the first column, enter the names of eight students who characteristic reading patterns most closely match the definition
3. In the second column, rank order from most to least the students listed in the first column according to the degree to which each child's characteristic reading pattern matches the definition of reading failure.

Definition:

Reading failure refers to an inability to read aloud with accuracy and comprehension any grade-level text. The failure to read and comprehend grade-level text is primarily attributed (a) to limited letter-sound correspondence knowledge necessary to sound out words <u>fluently</u> including the recognition of sight words and (b) to the limited self-monitoring of reading including self-corrects when incorrectly identified word does not fit with cues provided by the letters in the word or the context surrounding the word.

Column One **General List**		**Column Two** **Rank Order**	
	Most Like	1.	
		2.	
		3.	
		4.	
		5.	
		6.	
		7.	
	Least Like	8.	

Figure 5.3. Example of a stage one form for reading failure

In Stage Two, quick and efficient screening measures should be administered to describe and measure the academic and/or social dimension exhibited by the three highest ranked students identified in Stage One. Although the specific screening procedures would vary depending on the academic and/or social dimension of interest, they should be efficient (require little teacher time), reliable, and valid. Going back to the example of the elementary school interested in identifying children at risk of reading failure, oral reading rates (number of correct words read per minute) of the three highest ranking students in each grade were conducted (see Figure 5.4). The oral reading rates enabled the school to provide a clear description and measurement of the problem. As mentioned above, information collected in Stage Two can also be used to establish evaluation goals and objectives to assess the effectiveness of the interventions developed and implemented to address the problem.

Finally, this example could easily be adapted to deal with problem behaviors or any other issue of concern. For example, the definition of externalizing behavior problems detailed above could be substituted for the one on reading failure to identify students who exhibit disruptive behaviors. The key is to provide teachers a clear definition of the dimension of interest and then ask them to systematically identify and rank order children in their class whose academic or behavioral pattern best exemplifies it.

Follow the following steps to conduct reading rate checks.

1. Call one the student up to your desk to read you orally.

2. Instruct the student to read the selected narrative passage.

3. Record each error (i.e., substitutions, reversals, hesitations or assists, omissions) the student makes on the below reading rate data form.

4. At exactly one minute, record the last word read said by the student.

5. Count the total number of words that the student read orally.

6. Conduct the calculations of correct words per minute and incorrect words per minute using the following

---

Error Tally

1 2 3 4 5 6 7 8 9 10 11 12

---

1. Total Number of Word Read : _____

2. Total Errors : _____

3. Total Correct : _____

Percentage Correct : _____% (#3/#1)

Correct Words Per Minute : _____ (#3)

Incorrect Words Per Minute : _____ (#2)

Figure 5.4. Example of oral reading rate screening procedure

HOW DO WE DEVELOP CAPACITY TO ADDRESS THE PROBLEM?

After the presenting problem has been identified, the members of the leadership team must develop the capacity of the school to address the problem. The leadership team must assess the school's organizational capacity to examine what resources (fiscal, human, and physical) are currently in place and to assess whether the required resources necessary to implement interventions and programs will be in place when needed.

The organizational capacity of schools is crucial to the scope of the interventions and programs that can be undertaken and ultimately sustained. What are the barriers to establishing a functional intervention or program? Will there be enough staff? Do staff have the specialized technical knowledge necessary to address the problem? Are there resources for space and materials? Differing interventions and programs require differing levels of resources, and members of the leadership team need to determine what is available in advance of intervention and program implementation. These resources constitute the school's assets. Often the members of the leadership team will be faced with deciding which interventions and programs can be dropped to accommodate others as needs and resources change. Members of the leadership team will constantly re-assess these assets, or organizational capacity, as programs are added or subtracted. There are three areas of capacity to consider: human, technical, and funding capacity.

Human Capacity

Human capacity refers to the staff and volunteers who are currently or could be available to address the problem. We should consider what staff are potentially available to implement the interventions and programs and those needed to operate the organizational capacity necessary to implement them. Additionally, we should identify staff who could be available for the management, implementation, evaluation, and fund raising (human and fiscal) activities associated with implementing interventions and programs.

The extent to which the members of the leadership team have the capacity to initiate, mobilize, and sustain interventions and programs should also be considered. Effective leadership teams promote communication, decision-making, and conflict resolution to ensure that interventions and programs are implemented properly.

Finally, volunteers often are the fuel that will support interventions and program and keep them operating. They provide a bridge between community and school and give much needed support to the work. Volunteers can supplement staff at any level of work, from intervention and program facilitation to clerical work. They should be involved and committed by providing proper training and feedback for the tasks they are asked to accomplish. All volunteers should have a well-defined task; if they are busy and feel they are an integral part of the school, they are more likely to stay involved. Volunteers have varying interests and time constraints that must be taken into consideration. A periodic review of the volunteer's task and time commitment gives both the volunteer and the staff opportunity to evaluate and make changes in a positive way.

Technical Capacity

Technical capacity refers primarily to the administrative and specialized support necessary to address the problem. Administrative support provides the means for facility management, communications, operations, and logistics for implementing interventions and programs. Specialized support refers to the kinds of knowledge infrastructure that may be needed for specialized interventions and programs. Given the complexity of the factors underlying many problems addressed by contemporary schools, it is important for the members of the leadership team to assess the technical capacity of the school to determine whether any staff have specialized knowledge related to the identified problem. It may be necessary for the school to bring in an individual from the community or identify a consultant to provide the technical knowledge necessary to address the problem in an effective and efficient manner.

Funding Capacity

Funding capacity refers to fiscal resources available to implement interventions and programs. Inadequate funding is often the reason new interventions and programs fail. Assessing funding capacity means determining how much funding is available to allocate toward the implementation of selected interventions and programs. It also means devising strategies for reorganizing current interventions and programs to match available funding resources. Most important, it means putting resources into the development of a long-term funding strategy for sustainable development of the selected interventions and programs. Finally, it is important to examine external resources that can be used to support the implementation of interventions and program. External resources not only include external funding but also will include services, equipment, and funding support, often provided on an in-kind basis, that will enable the school to leverage its internal resources to greater benefit.

HOW DO WE SELECT THE TARGET GROUP AND SETTING?

After the problem has been identified and described as well as the capacity of the school developed, the members of the leadership team must select the target group who will receive services and where they will be provided. This step can sometimes be the hardest because the problem often has a broad impact and requires resources (human, fiscal, and physical) beyond the capacity of the school. The opinion and factual data collected to identify and describe the problem as well as the capacity assessment provides a guide with which to select a target group. The identification of the target group and the type of primary, secondary, and tertiary interventions and programs needed, in turn influence where the services are provided.

Selecting the Target Group

There are two related issues that the members of the leadership group must consider when selecting the target group. The first issue centers on the level of the intervention (i.e., primary, secondary, and tertiary). In most cases it is important for the school to develop a full continuum of primary, secondary, and tertiary interventions and programs to address the presenting problem. Primary level interventions and programs directed at all of the students needing services have both positive and negative aspects. On one hand, such interventions and programs reach large numbers of students. On the other hand, primary level interventions and programs aimed at all of the students needing services can be expensive and may not have not have the desired effect as more focused secondary and tertiary interventions and programs. Furthermore, because students in need of tertiary services (i.e., those who exhibit life-course persistent academic and/or behavior problems) often are the most visible and challenge the resources of the school, members of the leadership team may tend to focus on tertiary level interventions. In fact, contemporary schools often have primary level interventions and programs (i.e., services that all students receive) and tertiary level ones in the form of special education services. Such two-tiered interventions and programs are problematic because students must experience significant failure to receive the more intensive and focused interventions. In such cases, members of the leadership team should consider developing and implementing secondary level interventions and programs that can be integrated into the existing primary and tertiary ones.

The second issue the members of the leadership team must consider when selecting the target group focuses on who should receive the services. Selecting the target group for primary level interventions and program is straightforward because the group is targeted at the general population of students. However, selecting the target group for the secondary and tertiary level interventions and programs is more difficult because they are targeted at students who are at risk of or already exhibiting life course persistent academic and behavior problems. The primary consideration with selecting the target group for secondary and tertiary level interventions and programs include (a) the early identification process used to detect these students and (b) where the services are targeted.

The members of the leadership team can build on the multiple gating procedure they used to identify the primary problem. An example of a three stage multiple gating procedure used by a Head Start agency to identify preschool-age children at risk of or with reading disabilities in need of secondary and tertiary level interventions is presented in Figure 5.5. As illustrated, teachers systematically evaluate the children in their class via rank ordering of them according to their observed emergent literacy skills. These children are further assessed at Gate 2 with the Word Identification Phonological Awareness Screening (WIPS) and a Word Rhyme Identification (WR) procedure (Nelson, Roberts, & Marshall, 1999). The WIPS procedure includes 10 items ranging from compound words to sentences containing five single syllable words. The items progress sequentially from simple (i.e., compound words) to difficult items (i.e., five-word phrases made up of sing syllable words). The WR identification procedure includes five word pairs (three rhyming and two non-rhyming), totaling five items. Children respond verbally (yes or no) or physically (shaking of head) to the items. The two lowest scoring students move on to Gate 3 whereas the remaining students receive a secondary level intensive instructional program in phonological awareness. Diagnostic assessment procedures are administered to the two students who passed on to Gate 3; these students are provided an individualized tertiary level program by preschool staff.

Again, similar multiple gating procedures can be used in behavioral areas as well. Let’s look at a description of a four stage gating procedure used by a school to identify first grade children who are at risk for emotional and behavioral disorders and who have reading and language deficits.

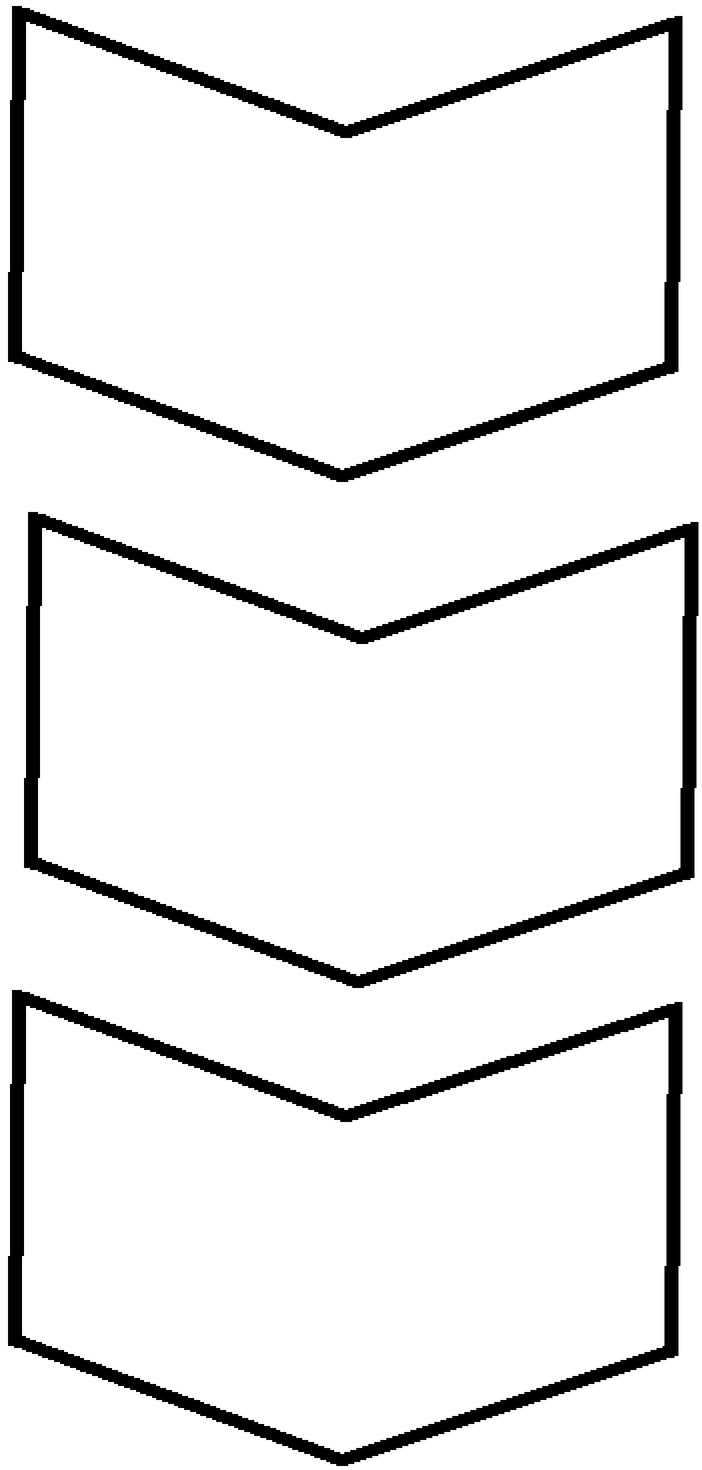

Figure 5.5. Example of a gating procedure used to identify children in need of secondary and

The screening process focused on school behaviors (Gates 1 and 2), reading readiness skills (Gate 3), and language development skills (Gate 4). The approach consisted of four stages that provide progressively more intensive levels of screening whereby only those students meeting or exceeding the pre-determined cut-off criteria moved on to the next step. The four stages include: (a) teacher ratings of student behavior; (b) teacher ratings of critical event behaviors (i.e., high intensity–low frequency behaviors); (c) student's ability to recognize letters (i.e., phonological awareness); and (d) student's language development skills.

All first grade children were screened. At <u>Stage I</u>, teachers completed the Teacher Report Form (TRF) (Achenbach, 1991b) on all the students in their class. Students who scored within the borderline and clinical ranges of the TRF continued to Stage II. At <u>Stage II</u>, teachers completed a Critical Events Index (Walker & Severson, 1992) on the students from Stage 1, which asks respondents to check the occurrence or nonoccurrence of 33 items (e.g., steals, suddenly cries) that assess low frequency-high intensity behaviors. Students who exceed the normative criteria moved on for further assessment. At <u>Stage III</u>, a letter-recognition was conducted. The children were shown 60 randomly sequenced upper- and lower-case letters and asked to name the letters in order. Students who score a standard deviation below the school norm on this task were referred for further screening. At <u>Stage IV</u>, language competence was measured with the Test of Language Development - 2 Primary (TOLD)(Newcomer & Hammill, 1988), which assesses the child's ability in seven language functions: picture vocabulary, oral vocabulary, grammatic understanding, sentence imitation, grammatic completion, word discrimination, and work articulation. Children who scored below one standardized deviation on the TOLD were considered target students.

It is evident that multiple gating procedures can be developed to identify students in need of secondary and tertiary services in a number of areas. The <u>Systematic Screening for Behavior Disorders</u> (SSBD: Walker & Severson, 1990) is an example of multiple-gating procedure that can be used by schools to identify early children who exhibit life course persistent behavior problems. The SSBD is a three-stage, multiple-gating system for identifying elementary-aged students. The first stage requires teachers to identify and then rank order students in their class according to how closely their characteristic observed behavior patterns correspond to externalizing and internalizing behavioral profiles, respectively (see profile descriptions above). The classroom teacher then uses two screening measures to assess the specific content of the behavior patterns of the three highest ranked students (both internalizing and externalizing). These measures include a 33-item Critical Events Checklist and a 23-item Combined Frequency Index. Teachers rate each student's status on behavioral descriptors of externalizing and internalizing behavioral dimensions built into the measures. Established normative criteria are then used to determine whether students qualify for further assessments in SSBD screening Stage Three. Another school professional other than the teacher (e.g., school psychologist, school counselor, special education teacher) observes the students exceeding the normative cutoff points. This professional uses structured observation and recording procedures to observe the students in classroom and playground settings. Students who exceed established normative criteria are then provided tertiary level interventions and programs.

Finally, it is important to note that the members of the leadership group must also consider the multiple factors influencing the problem being addressed when selecting the target group. For example, the risk factor exposure model underlying the development of behavioral disorders described above points to a number of factors that would have to be addressed by a comprehensive program (Hawkins et al., 1991; Lynam, 1996; Patterson et al., 1992). As illustrated in Figure 5.6, child (e.g., cognitive ability and resilience) and family (e.g., discipline style and family stressors) characteristics are associated with the development of maladaptive school-related behaviors that lead to academic failure (e.g., defiance of adults, restlessness and overactivity, aggression, lack of self-regulation, disruptive classroom behavior, inability to focus and sustain attention, hostile attitudes toward school) and peer rejection and alignment with deviant peer groups.

In other words, given the multiple factors that underlie any given problem, the members of the leadership team should consider other related groups that may also be targeted for interventions and programs. Secondary and tertiary level interventions and programs for students who have behavioral problems often focus on the multiple contexts (i.e., family, peers, and community) that the student encounters. For example, family experiences play a critical role in causing, promoting, or reinforcing problem behaviors. Therefore, it may be important to develop interventions and programs targeted toward parents, siblings, or the entire family unit. Considering related groups may enable the development of interventions and programs that compliment those aimed at the primary target group.

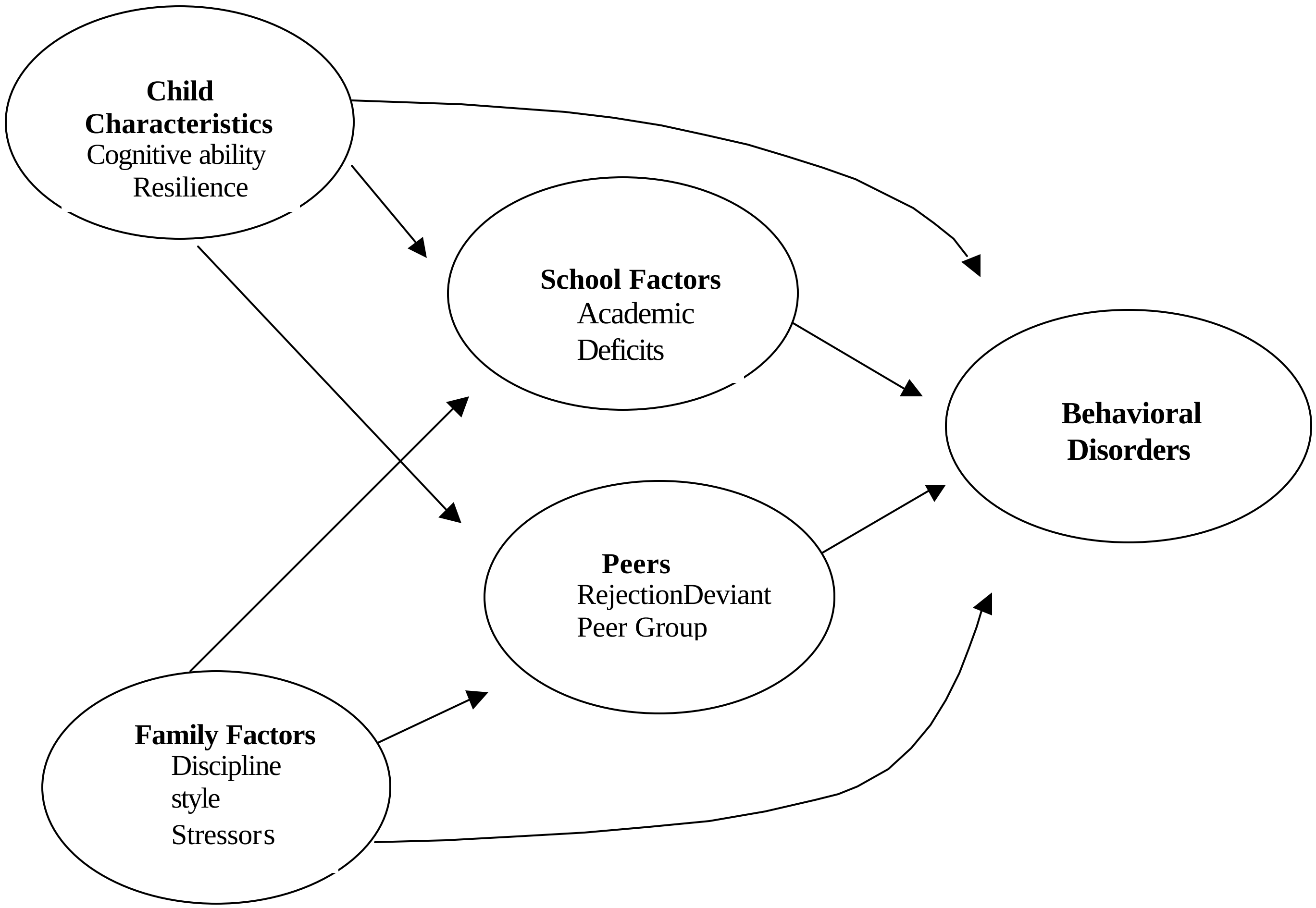

Figure 5.6. Development of behavioral disorders

Selecting the Setting

Once the target group has been identified, the members of the leadership team must select the setting where the interventions and programs will occur. Selecting the setting requires the leadership team to consider the characteristics of the target group and the interventions and programs to be provided. While the context for providing primary level interventions and programs is logical, it is not always obvious in the case of secondary and tertiary programs. For example, at first blush, implementing a one-to-one tutoring intervention for children with or at risk for reading disabilities seems to be straightforward. However, selecting a setting is difficult. Will the tutoring sessions be conducted in the student's classroom, potentially disrupting the ongoing instructional activities provided to the remaining students? Or, will the tutoring sessions be conducted in the hallway or empty classroom, which would present a new set of concerns (e.g., seating for the student and tutor, transition time, etc.)?

It is clear that selecting the setting where the interventions and supports will occur can be rather difficult. The members of the leadership team may have to collect additional data from the target group to determine where the secondary and tertiary level interventions and programs can be carried out most effectively and efficiently. These issues become even more problematic if the interventions and programs are targeted at associated groups such as parents.

HOW DO WE SELECT INTERVENTIONS AND PROGRAMS?

After the problem has been identified and described, the capacity of the school developed, and target group is selected, the members of the leadership team must select interventions or programs that will be provided. We have extensive knowledge of how to prevent and remediate academic and behavior problems. We can help students to acquire the social skills necessary to resolve conflicts and to increase peer acceptance. We can help students to acquire the academic skills necessary to be successful in school. With so many interventions and programs, one of the greatest challenges facing the members of the leadership team is identifying those that are evidence-based. As noted above, selecting evidence-based programs is important because not everything done in the name of academic and behavior problems shows promise. Members of the leadership team and others should be cautious when selecting interventions and programs.

Although it might take some effort to identify evidence-based interventions and programs, taking the time to do so will enable the members of the leadership team to build on the experience of others.

Building on the experience of others will save time in the long run and help avoid mistakes in the short run. Recall that strategies, interventions, and programs are not only related to one another but also depict the evolution of the comprehensiveness of school-wide positive behavior and intervention programs over time (see Figure 5.1). Thus, the starting point for selecting interventions and programs is identifying a strategy or an approach that matches the characteristics of the problem and the target population such as the risk factors exposure model described above. The members of the leadership team begin the process of identifying possible interventions once a strategy is adopted.

Because a single intervention implemented in isolation is unlikely to solve many of the academic and social problems facing schools, members of the leadership team should consider combining several interventions into a program. For example, a mentoring program to help children at risk of school failure may be complimented by a tutoring program in reading. Regardless of the problem addressed, it is important that the interventions included within a program be integrated and linked with one another. The overall goal of establishing a program that includes multiple interventions is to provide an interconnected continuum of support for students with or at risk of academic or learning problems rather than a set of distinct interventions.

There are three criteria that should be present for each intervention or program that we consider. The program: (a) must be consistent with the school's strategy or approach, (b) must be within the school's capacity to implement (human, technical, funding), and (c) must be supported by experimental evidence.

The intervention or program under consideration may have produced positive outcomes but not necessarily with the specific problem or target population that has been identified. We should consider the identified intervention or program to ensure that its goals support the school's approach. We should also consider the school's level of readiness for specific interventions and programs, the agenda of key stakeholders, and the existence of other similar and/or conflicting interventions and programs. These factors must be weighed in light of the intervention's or program's implementation requirements, its risks for negative effects, and its potential benefits.

The intervention or program under consideration must be within the capacity of the school to implement. Some interventions and programs are complex and can be difficult to implement. For each intervention or program we select, we should consider what resources are needed to implement the intervention or program. The information gained from the capacity assessment process described above can compared to the resources needed to implement the intervention or program to determine if the school has sufficient resources— human, technical and funding—to implement the program. If the costs of the proposed intervention or program and the resources required for its implementation are beyond the school's capacity, the members of the leadership team should select an alternative intervention or program.

Finally, the intervention or program must be evidence-based. Fortunately, several agencies and organizations have joined forces to identify evidence-based practices within a variety of settings: home, school, mental health, and community. This information is easily accessible via the Internet and print sources. For example, the Blue print programs (1997) produced by the Center for the Study and Prevention of Violence established clear criteria for evaluating interventions and programs and provides a clear description of the programs in a Blueprint Series. The objective of the Blueprint Series was to identify violence prevention programs that met a very high scientific standard of program effectiveness. The overall goal of the Blueprint series was to provide program descriptions that would allow states, communities, and individual agencies to (a) determine the appropriateness of the program for their context, (b) provide a realistic cost estimate for each program, (c) detail the organizational capacity required to ensure the program's implementation and maintenance, and (d) give detailed potential barriers and obstacles that might be encountered when attempting to implement each program. Complete copies of the Blueprint series can be obtained from the Center for the Study and Prevention of Violence at Boulder, Colorado (http://www.Colorado.EDU/cspv/blueprints/Default.htm). Other efforts are currently underway. Thus, information on evidence-based programs will be increasingly easy to access as government agencies conduct systematic reviews of the literature to identify evidence-based programs.

Members of the leadership team should consider four standards for the selection of evidence-based programs. First, interventions and programs should only be considered if they have been validated with a true (i.e., random assignment of participants to experimental and comparison groups) or quasi-experimental (i.e., use of experimental and comparison groups without random assignment) design. Second, interventions and programs should only be considered if they produced a statistically and practically significant effect. Third, interventions and programs should be viewed more positively if they have been replicated at multiple sites with demonstrated effects. Finally, interventions and programs should be viewed more positively if they have demonstrated durable effects (e.g., sustained for at least 1 year post-treatment).

HOW DO WE IMPLEMENT AND SUSTAIN INTERVENTIONS AND PROGRAMS?

After the problem has been identified and described, the capacity of the school developed, and the target group and intervention or program selected, the members of the leadership team must set some implementation goals and objectives. The goal is a broad statement of what the members of the leadership team would like to accomplish. Objectives are the sequence of activities and tasks that must be accomplished to implement interventions and programs and, in turn, achieve the goal. Laying out a set of sequential objectives will provide the members of the leadership team a means with which to track the implementation of interventions and programs. Implementation objectives should identify (a) who is responsible, (b) what activities and tasks that must be carried out, (c) where they are carried out, and (d) the anticipated completion date. An example of a goal and associated implementation objectives for a school-wide discipline program are presented in Table 5.1.

It is important to limit the number of implementation objectives so that it is easier for the school staff and other key stakeholders to identify the accomplishments. Furthermore, implementation objectives are not static. Objectives should be modified as resources change, activities proceed faster or slower than planned, or new information becomes available. Some guidelines for the members of the leadership team to keep in mind include:

- Ensure that the objectives are realistic and match the available resources and the capacity of the staff to implement interventions and programs.
- Ensure that input is gotten from outside agencies that will assist with the implementation of interventions and programs to make certain that the implementation objectives are consistent with those of agencies.

Establishing realistic implementation goals and associated objectives will ensure that interventions and programs are implemented in a systematic fashion. The implementation objectives will not only clarify the tasks to be done but will also provide the members of the leadership team a means with which to track the implementation of interventions and programs. It is important for the members of the leadership team to make mid-course changes in the implementation objectives, if necessary.

Table 5.1.

Example of an implementation goal and associated objectives

Goal: Reduce the number of formal disciplinary office referrals.

Objectives:

1. Establish effective ecological arrangements to achieve a safe school environment.

   Who: Members of the leadership team.
   What: Conduct site analysis, eliminate or adjust unsafe physical arrangements and improve the scheduling and use of space.
   Where: Entire school campus.
   Date: Fall, 2001

2. Establish consistent behavioral expectations and provide active supervision.
   Who: Entire school staff.
   What: Develop consensus among staff on behavioral expectations and levels of supervision.
   Where: Entire school campus.
   Date: Fall, 2001

3. Implement the Think Time Strategy for responding to problem behaviors.

   Who: Entire school staff.
   What: One 2-hour training session with two 1-hour problem-solving sessions.
   Where: School library.
   Date: January, 2001

4. Establish behavioral support team.

   Who: Members of the behavioral support team.
   What: Three 2-hour training sessions on functional behavioral assessment and behavioral intervention plans.
   Where: School Library.
   Date: January, 2001

Finally, the members of the leadership team should ensure the sustainability of interventions and programs. Sustainability means that an intervention or program is flexible, durable, and likely to continue over a period of time – and has the resources to support it. Of course, members of the leadership teams should first ascertain if interventions or programs should be sustained. Changes in circumstances, staff, and school needs might suggest that the intervention or program is not a good "fit" for the school. Perhaps the desired outcomes were not achieved. However, the careful planning that was undertaken to select interventions and programs in the first place suggests the likelihood that sustaining them will be a priority. Moreover, ending interventions and programs that achieve positive results is counterproductive if the problem for which it was chosen still exists. Creating interventions and programs requires significant start-up costs that can be amortized over future years if they are continued. If interventions and programs are successful but not sustainable, future ones may meet staff resistance. Some things for the members of the leadership team to consider with regard to the sustainability of interventions and programs include:

- Making sure the assessed needs of the school are continually driving the intervention or program.
- Ensuring that the intervention or program is producing desired outcomes through a high quality evaluation process.
- Assessing capacity to identify natural supports for the intervention or program.
- Preparing clear plans for sustaining the intervention or program.
- Creating a strong organizational base for the intervention or program
- Considering integration of specific interventions into a comprehensive program.
- Considering a scaled down version of the intervention or program that will still be effective.

HOW DO WE EVALUATE INTERVENTIONS AND PROGRAMS?

After the problem has been identified and described, the capacity of the school developed, and the target group and intervention or program selected and implemented, the members of the leadership team must evaluate the interventions and programs. The two goals of the evaluation are to (a) provide feedback to staff regarding the implementation of interventions and programs (process evaluation) and (b) determine the extent to which interventions and programs have accomplished their established goals (outcome evaluation). Process evaluations focus on how interventions and programs can be modified to make them more effective. Outcome evaluations center on whether interventions and programs are effective and meet the established goals. It is important to note that conducting process and outcome evaluations is a complex topic. Thus, this section is not meant to be a comprehensive discussion of evaluation methodologies but rather a brief overview of the focus of process and outcome evaluations.

Process evaluations should focus on the extent to which the interventions and programs have been implemented as intended, serve the identified target population, and operate as expected. Although the information collected through a process evaluation varies depending on the particular intervention or program, there are three types general types of information that are considered. First, because the intervention or program is directed at a specific target population, the characteristics of the individuals who actually receive the intervention or program activities should be examined. Second, it is important to establish the extent to which interventions and programs are being carried out as prescribed because they are designed to be delivered in a specific manner if they are to produce positive effects. Finally, because key stakeholders must value interventions and programs if they are to be sustained, it is important to study their perspectives.

Outcome evaluations focus on the effectiveness of interventions and programs or the extent to which they are meeting the established goals. In other words, outcome evaluations are summative in nature and provide information with which to judge the value of interventions and programs. Furthermore, outcome evaluations can take on several levels of complexity. At the first level, an outcome evaluation might be designed only to determine whether the target population has improved. At the second level, an outcome evaluation may be designed to determine whether the target population has improved relative to a similar group not receiving services. At the third level, an outcome evaluation might be designed to compare the relative effectiveness of two different types of interventions or programs.

Some guidelines for conducting evaluations of interventions and programs follow:

1. Decide what to assess. We should focus on what the intervention or program can realistically accomplish. For example, examining the school's overall standardized reading scores to assess the effects of a one-to-one tutoring program on 2nd grade students at risk of reading failure would not be realistic.

2. Use several outcomes. It is usually better to use several measurable outcomes when assessing interventions and programs. Once the outcomes are selected, deciding on a evaluation design and creating data collection methods will be much easier.

3. Select an evaluation design to fit the intervention or program. It is important to select an evaluation design that will provide a clear picture of the extent to which any changes can be attributable to the intervention or program. Naturally, the strength of the evaluation design will enhance confidence in the findings.

4. Determine when to assess. The timing of measurements is important and will result from our evaluation design. For example, if the design is a pre-post, the measurements must be conducted before the implementation of the intervention or program as well as after it.

5. Gather the data. We should decide who and how the data will be collected. The person selected may affect the results. Will the members of the target population feel comfortable with the person? Can the person gathering data be as objective as the task requires? Some important issues that might arise include consent, confidentiality, and anonymity. These issues must be considered carefully prior to collecting any data.

6. Analyze the data. Just as there are quantitative and qualitative data collection methods, there are quantitative and qualitative data analysis methods. The data analysis procedures used should be consistent with the evaluation design and measures used.

7. Interpret the data. The process and outcome data obtained through the evaluation must be interpreted to guide improvements in interventions and programs as well as to improve them over time. We should interpret the data against the established goals or benchmarks and weigh the results against the intervention's or program's cost.

SUMMARY

One of the three primary goals of school-wide positive behavioral intervention and support programs is to identify and select evidence-based interventions and programs. The focus of this document was on how to plan, select, implement, and evaluate interventions and programs (i.e., the fifth and sixth organizational systems of the School Evaluation Rubric) that have been validated through experimental studies or rigorous evaluation designs. Planning, selecting, implementing, and evaluating evidence-based interventions and programs is key to achieving and effective school-wide positive behavioral intervention and support program.

The key terms underlying the entire process used to plan, select, implement, and evaluate evidence-based interventions and programs are: (a) strategy, (b) intervention, and (c) program. Strategies, interventions, and programs are not only related to one another but also depict the evolution of the comprehensiveness of a school-wide positive behavioral intervention and support program over time. Identifying a strategy or conceptual approach to address the problem is important to guiding the selection of interventions and programs. Furthermore, selecting a set of primary, secondary, and tertiary interventions to address a problem leads to the development of an effective and comprehensive program.

There are six steps that members of the leadership team use to plan, select, implement, and evaluate evidence-based interventions and programs. First, the leadership team collects information from several sources in an effort to clearly identify and describe the problem. Although opinion data can be collected during this step, it is important that factual information is primarily used to do so. Second, after the problem has been identified and described, the leadership team must develop the capacity of the school to address the problem. Building the capacity of the school involves an assessment of the human, technical, and fiscal capacity of the school to support the implementation of the intervention or program. Third, the leadership team must select the target group and settings. Selecting the target group may be one of the most difficult tasks because the problem typically cuts across several groups (e.g., ages). Fourth, the leadership team must select the intervention or program that will be used to address the problem. The intervention or program selected should be validated through experimental research (i.e., true experimental) or rigorous (i.e., quasi-experimental) designs. Fifth, the leadership team must develop a strategic plan to implement and sustain the intervention or program. The plan should consider the capacity of the school to ensure that the implementation goals and objectives are realistic. Finally, the leadership team must conduct a process and outcome evaluation of the intervention or program. Conducting and evaluation of the intervention and program is important to ensure that the program meets the established goal(s).