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Coordinating Preservice and In-Service Training of Early Interventionists to Serve Preschoolers Who Engage in Challenging Behavior

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This chapter focuses on the need to coordinate and improve preservice and in-service training (including technical assistance) for professionals who serve individuals and family members who live or work with young children who engage in challenging behavior. The chapter establishes that the number of young children who engage in challenging behavior is increasing and that current preservice and in-service activities have not kept pace with strides in instructional technology and more progressive service delivery strategies. After identifying needs in current preservice and in-service training regimens, practices are suggested that represent some of the steps needed to create a more coordinated approach to preservice and in-service training.

CHALLENGING BEHAVIOR AMONG YOUNG SCHOOL-AGE CHILDREN: A SIGNIFICANT AND GROWING PROBLEM

Challenging behavior (i.e., problem behavior, excess behavior, and behavior disorder) has been defined as "behavior emitted by an individual that results in self-injury, injury to others, causes damage to the physical environment, interferes with the acquisition of new skills or isolates the learner" (Doss & Reichle, 1991, p. 215). Retrospective analyses suggest that a significant proportion of individuals with severe challenging behaviors had onset in early childhood (Green, 1967; Schroeder, Mulick, & Rojahn, 1980); these numbers appear to be increasing in both urban and rural areas. For example, Brandenburg, Friedman, and Silver (1990) have reported that 14%–20% of typically developing and at-risk children exhibit behavioral and emotional difficulties, while other investigations have estimated that 13%–31% of young children with identified developmental disabilities have severe behavior disorders (Chess & Hassibi, 1971; Donahue & Abbas, 1971; Eaton & Menolascino, 1982). Timm (1993) has noted that families of young children described as having moderate to severe behavioral disorders have constituted the largest group of referrals to regional intervention programs across the United States. In addition, a recent Government Accounting Office (GAO) report ("Briefing," 1994) noted that unprecedented numbers of low-income children are collecting disability benefits for behavior problems. In fact, the report notes that the number of children receiving SSI (Supplemental Security Income) benefits more than doubled in 4 years from 296,300 in 1989 to 770,500 in 1993.

Unfortunately, among many who serve preschoolers who engage in challenging behavior, there is a tendency to believe that children may "outgrow" challenging behavior. This, in turn, fosters a benign ignoring of low-level repertoires of self-injury, aggression, and stereotypic behavior. Actually, there is evidence to suggest that behavior problems emitted



by preschoolers are *not* outgrown and, in fact, have a propensity to worsen over time (Green, 1967; Schroeder et al., 1980; Smeets, 1971).

CHILDREN WITH CHALLENGING BEHAVIOR ARE AT RISK FOR NOT RECEIVING A QUALITY EDUCATIONAL EXPERIENCE

Will (1984) observed that children with behavior problems do not benefit maximally from their educational placements. Among general education elementary school teachers serving children with disabilities in typical educational settings, the reason most frequently cited for returning children to a more restrictive educational placement is the emergence or persistence of a repertoire of socially motivated challenging behavior. Although there is a strong consensus that providing educational services in inclusive educational and home environments is critical, children with challenging behavior are often not included in child care and inclusive public school programs involving peers who are typically developing (Danforth & Drabman, 1989; Giangreco & Putnam, 1992; Walker & Rankin, 1983). Teachers and related services personnel report that they are faced with an overwhelming array of behavior problems that must be addressed quickly and efficiently in order to create effective and long-term inclusion opportunities. Schloss, Miller, Sedlacek, and White (1983) reported that general educators tend to have a limited tolerance for children who engage in challenging behavior. In part, this limited tolerance may account for teachers' propensity to rely more on reactive strategies (time-out, overcorrection, response cost, verbal threats, and reprimands) rather than on more proactive strategies that manipulate conditions *prior* to the individual's engagement in challenging behavior. Social workers report repertoires of challenging behavior as one of the greatest stumbling blocks in providing home-based services to preschoolers (Reichle,

1993). In fact, Carta et al. (1994) reported that challenging behaviors are the number one reason given by teachers for referring young children to special education programs.

INCREASED NEED FOR TRAINING OF EARLY INTERVENTIONISTS WHO SERVE CHILDREN WHO ENGAGE IN CHALLENGING BEHAVIOR

The educational dilemma is striking. Educators have a propensity to terminate typical educational placements for children with challenging behavior, presumably assuming that the children would be better served by professionals who have the expertise to address their needs. Unfortunately, available data suggest that professionals who serve preschoolers may also have limited expertise and confidence in implementing strategies to proactively address repertoires of challenging behavior emitted by young children. With the increasing demands for progressive educational services come critical needs for professionals to receive assistance in learning how to implement proactive assessment and intervention strategies with young children who engage in challenging behavior.

Wolff (1993) conducted a survey to examine the in-service and technical assistance needs of educators serving preschoolers in Minnesota. The 464 professionals surveyed (including special education leaders, early childhood teachers, speech-language pathologists, and school psychologists) were asked to rank areas for which additional training was needed. In order of priority, educators specified the greatest need for additional training in 1) functional communication intervention, and 2) antecedent-based intervention strategies to address challenging behavior.

In addition to the critical need for in-service training, recognition of significant preservice training needs in the area of best educational and family support practices was highlighted in a national working conference on positive approaches to the management of challenging behavior sponsored by the National Institute on Disability and Rehabilitation Research (Reichle, 1991). Among the most critical priorities identified was the prevention of emerging repertoires of challenging behaviors through improving the quality and availability of preservice and in-service training.

At first glance, one might view that we have identified a need for enhanced in-service and technical assistance. This need could be explained logically as emanating from rapid scientific advances that have led to the development of more effective assessment and intervention strategies. To some extent, this is the case. Since the mid-1970s, a technology of assessment and intervention that increasingly relies on preventive intervention

strategies rather than reactive intervention strategies has emerged. At the same time the instructional technology was expanding, there were increased demands on special educators to transmit this information to general educators in the process of creating more inclusive educational environments. Lack of success in adequately transmitting information regarding this new technology has resulted in the failure to develop quality inclusive educational placements for children who engage in challenging behavior.

However, to place responsibility for the challenges that we have identified solely on the need for updating the skills of professionals would be a gross oversimplification of the real problem. The basic staff needs that we have observed suggest that a significant proportion of public school professionals are not being adequately trained at the preservice level. Gaps of knowledge and implementation skills required to work with persons who engage in challenging behavior go far beyond the need for fine tuning an existing repertoire of established professional competencies. Many of the challenges to preservice training programs involve more carefully attending to the tasks that professionals will be required to perform when they have completed their degrees.

Challenges Facing Preservice Personnel Preparation Programs

Improved preservice training addressing proactive approaches to managing challenging behavior has been forthcoming but limited at the university level (U.S. Department of Education, 1993). A principal reason for this is that preservice training programs in special education and related disciplines (e.g., speech-pathology, occupational and physical therapy, psychology) are often isolated from one another, and participants are cut off from involvement with their colleagues working in public schools.

Preservice students in education and related therapy disciplines rarely interact in courses or in practicum experiences (Rainforth, 1985), even though each of these groups of professionals must share a common base of information regarding communication, behavior management, positioning and handling, and a host of other areas. Because it is very difficult for one person to be an expert in all areas, there is a tremendous need for professionals serving young children with disabilities and their families to engage actively in a joint transdisciplinary effort in decision making and program implementation. Despite this need, Locke and Reichle (1989) reported that public school professionals often report that they work in isolation. Additionally, Courtnage and Smith-Davis (1987) reported that of the 360 higher education institutions that participated in their investigation, 48% offered no training in team collaboration. Among the most frequently cited stumbling blocks to the implementation of a collaborative model of personnel preparation are 1) confusions regarding

responsibilities, 2) the absence of administrative support and structure, and 3) "turfism" regarding the ownership of courses within departments. A further reason for a lack of collaboration is the isolation of preservice training programs mentioned earlier.

Baumgart and Ferguson (1991) have emphasized the importance of refocusing university preservice instruction to place greater emphasis on team collaboration and the use of on-site team problem solving. In placing greater emphasis on applied experiences, they have suggested that it will be necessary to ensure that practica are not simply "practicing labs" but collaborative instructional settings in which the practicum student is given sufficient support to approximate a more errorless (vs. trial and error) learning environment. If this is to occur, there must be clear advantages for practicing professionals to provide this arrangement, and there must be an active collaborative interaction between university faculty and public school professionals. Inadequate training in collaboration in preservice preparation represents a critical factor in the lack of collaboration among professionals serving children in public schools (Campbell, 1987; Wolery & Dyk, 1984). Rainforth, York, and Macdonald (1992) summarized a number of benefits of a collaborative service delivery model that include 1) increased instructional time for children with disabilities (Albano, 1983; McCormick, Cooper, & Goldman, 1979), 2) improved skill acquisition (Campbell, McInerney, & Cooper, 1984; Giangreco, 1986), 3) decreased passive caregiving in general educational environments (McCormick et al., 1979), and 4) reduced conflicts among team members (York & Rainforth, 1987).

One significant stumbling block to the implementation of preservice training programs that focus on collaboration with university professionals in other disciplines and with local service providers in serving young children with challenging behavior is the manner in which U.S. Department of Education personnel preparation funding priorities are constructed. Currently within personnel preparation, there are separate grant competitions for in-service training projects (model in-service) and preservice training (master's degree personnel preparation). Within preservice training competition, an additional distinction is made between special education training programs and related services. The separation in these competitions makes it particularly challenging to fund a well-coordinated training program that seeks to commingle preservice and in-service training activities. A modification to funding priorities is warranted to more thoughtfully encourage collaboration across disciplines and across preservice and in-service activities.

In summary, university training programs in the aggregate have not done a particularly good job in developing interdisciplinary and transdisciplinary training across university departments responsible for prepar-

ing general and special educators, speech-language pathologists, physical and occupational therapists, school psychologists, and a host of other related disciplines. Additionally, the development of collaborations between universities and public schools has been very modest to date. To some extent, federal funding policy and university bureaucracies contribute to the existing problem.

Challenges Facing Effective Provision of In-Service Training and Technical Assistance

Traditionally, school districts have relied on external consultants to work with educators to design effective interventions for children with moderate and severe disabilities (including those who engage in challenging behavior). This consultation often includes a combination of limited in-service and direct aperiodic consultation after a brief amount of direct observation of the child by the consultant. Typically, consultants to a school program only become involved after a behavior problem has reached a crisis level (Reichle, 1993). At this point, technical assistance often focuses on reactive intervention strategies designed to quickly interrupt the child from damaging her- or himself or others. Unfortunately, even when more crisis-driven procedures are successful in interrupting challenging behavior, often they do not include procedures for teaching positive replacement behaviors or provisions for fading more intrusive interventions. Many times this unfortunate cycle is repeated with crisis-focused reactive procedures becoming progressively more intrusive (Nord, 1994). Consequently, the social motivation that led to the child's emission of the challenging behavior may never be addressed adequately. Because educators are only taught how to address the crisis, it is likely that, at some future point, the antecedents and consequences that led to the crisis will again occur because they may have been easily overlooked in developing the crisis intervention procedure. A more progressive model must provide on-site technical assistance to work with teachers and parents to develop a compendium of proactive strategies focused on preventing the need for crisis intervention.

The general components of in-service delivery strategies that might best meet the collaborative agenda of both preservice training programs and public school service providers have been addressed by Bailey (1989) and Campbell (1990). They concluded that the most immediate short-term in-service personnel needs are likely to be met through a continuum of in-service mechanisms that range from intensive didactic provision of information to longitudinal on-site technical assistance. There appears to be a growing consensus that longitudinal on-site technical assistance represents a critical component of any exemplary in-service training model (Fredericks & Templeman, 1990). Campbell (1990) suggested that a com-

prehensive package of in-service and technical assistance requires 1) the delineation of specific training needs, 2) incentives for personnel to participate, 3) clear identification of expected outcomes, and 4) supervised application of information with ongoing feedback.

OVERVIEW OF A MODEL FOR PRESERVICE AND IN-SERVICE PREPARATION OF THOSE WHO SERVE PRESCHOOLERS WITH BEHAVIOR DISORDERS

The Minnesota Early Childhood Behavior Support Project (MECBSP) is based on the premises that a core transdisciplinary group of universities and school districts can do the following:

1. Improve services in least restrictive environments for young children with emotional-behavioral problems
2. Become expert deliverers of longitudinal technical assistance and can participate in preservice instruction
3. Design and implement in-service coursework delivered to other professionals and paraprofessionals in intensive workshops that are coordinated with professional advancement
4. Implement intensive workshops and on-site training that serve both preservice and in-service students (McEvoy, Davis, & Reichle, 1993)

Furthermore, in order to be effective, the model must include incentives for participation, a clear delineation of outcomes, and the active involvement of parents.

ESTABLISHING COLLABORATIVE RELATIONSHIPS BETWEEN UNIVERSITIES AND PUBLIC SCHOOLS

The following sections discuss the efforts of the MECBSP in establishing collaborative relationships between universities and public schools in order to create strong service delivery systems for young children with challenging behavior.

Identifying Needs and Resources

The first step in generating a collaboration between any two entities is determining that the collaboration is mutually beneficial. Consequently, university personnel preparation programs must work carefully with public school professionals, administrators, and parents to identify complementary preservice and in-service needs. This initial activity requires a discussion with school district administrators and a sampling of relevant professionals and parents within the district. At this discussion, the scope and magnitude of challenging behavior along with the model of pre-

service, in-service, and technical assistance collaboration that might be possible between a university and a public school system are discussed openly. If there is widespread support among discussion participants for the future identification of the need, Minnesota project staff conduct a survey of school district personnel to verify that managing repertoires of challenging behavior constitutes a significant and ongoing in-service and technical assistance need.

Once evidence is accumulated that supports significant in-service and technical assistance needs and shows that a cooperative program could be mutually beneficial, the university preservice program offers to work with the school district to plan a collaborative project that can continue minimally for a 2- to 3-year period (with yearly joint reviews by the participating parties). School district administration must be willing to create adequate release time or financial compensation to establish a transdisciplinary team. Eventually, this team will assume responsibility for providing on-site technical assistance in the home and school. Additionally, team members will develop and implement a plan of longitudinal in-service for district staff in topics pertaining to developing proactive behavioral support plans for young children who engage in challenging behavior.

To create the time resources required to engage in these activities, MECBSP has encouraged participating school districts to release up to .25–.33 full-time equivalent (FTE; .20 = 1 day per week) of each of three or four public school professionals' time to participate. The university, in turn, commits the equivalent of approximately .5 FTE of a highly skilled professional (postdoctoral associate or advanced doctoral candidate) during the period of the project to provide mentoring and to work collaboratively with the team to meet its objectives. The resulting advantage for participating school districts is a decreased need for expensive external consultants whose information is often not well coordinated and difficult for practitioners to implement and troubleshoot. The advantage for the participating university program is the establishment of high-quality training sites that better support practice, applied research, and model demonstration activities.

Implementing Joint Preservice and In-Service Coursework

Rather than quickly moving to select a team of individuals who may not fully understand the scope of effort required from their involvement, participating university faculty work with school district administrators to organize an on-site, two-credit 10-week course addressing proactive approaches to managing challenging behavior. This course is open to all district staff. Staff may take the course for academic credit (at their own expense) or they may participate at no cost if they do not desire university

credit. If participants take this course at their own expense, they can apply the credit toward incremental salary advancements. Additionally, this course is available to preservice students at the University of Minnesota.

Preservice graduate students can be served by community-based coursework at two levels. First, graduate students who will be candidates for practicum experience can work collaboratively with prospective public school practicum mentors and gain from the experience and knowledge that these professionals bring to the class. Second, advanced leadership graduate students can participate in the delivery of course information. Table 1 lists the competencies that students will have acquired as a result of successfully completing this course. A syllabus for this course is included in the appendix to this chapter. Although instruction in a variety of areas is of great importance, information in three areas is particularly critical to the impact of preservice and in-service coursework in developing positive behavioral support plans for young children who engage in challenging behavior. These areas are 1) recognizing that challenging behavior may serve social functions, 2) being familiar with assessment activities that can be used to determine the function of challenging behav-

Table 1. Competencies acquired as a result of successfully completing a 10-week course addressing proactive approaches to managing challenging behavior

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- Students will gain an understanding of socially motivated and nonsocially motivated challenging behavior.
 - Students will become familiar with a variety of medical and biological factors associated with challenging behavior.
 - Students will gain an understanding of the relationship between communication and challenging behavior and will be able to identify the communicative functions served by challenging behaviors.
 - Students will be able to implement the range of assessment strategies that may be used to determine the function of challenging behavior (including review of existing documents, the interview process, direct observations, and environmental manipulations).
 - Students will become familiar with a series of intervention strategies for individuals who have severe communication deficits.
 - Students will become familiar with the implementation of environmental rearrangements and social interaction interventions used to address challenging behaviors.
 - Students will be able to implement interventions that address communicative alternatives to escape-motivated challenging behavior (request to take leave, rejecting response, request for assistance, request for attention, etc.).
 - Students will be able to implement interventions that address communicative alternatives to obtain access-motivated challenging behavior (request for attention, request for assistance, request for desired items and events, etc.).
 - Students will be able to implement interventions that address escape-motivated challenging behavior that cannot be honored (high-probability request sequence, tolerance for delay of reinforcement, collaboration, preferred item as distractor, etc.).
 - Students will gain an understanding of a variety of prompting strategies used for each of the interventions introduced.
 - Students will gain experience evaluating and troubleshooting interventions.
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ior, and 3) identifying intervention options available to address socially motivated challenging behavior. Each of these is discussed briefly below.

Recognizing that Challenging Behavior May Serve Social Functions

Challenging behavior may be either *socially* or *nonsocially* motivated. Behaviors that require the mediation of others in order to be consequted are referred to as socially motivated. Examples of socially motivated challenging behaviors include screaming in order to draw the attention of the teacher or throwing objects to escape a task that has become too difficult or boring. Even though each of the preceding behaviors is associated with a different social function, both require the mediation of another person in the environment in order to be consequted. Thus, both are examples of socially motivated challenging behaviors. Behaviors that do not require the mediation of others in order to be consequted are referred to as nonsocially motivated. Examples of nonsocially motivated challenging behaviors include rocking to obtain sensory stimulation and hitting oneself on the side of the head in response to an earache.

Some challenging behavior may originate as nonsocially motivated behavior but across instances become socially motivated. For example, a child might poke his fingers into his eyes because of the sensory stimulation that it provides (nonsocially motivated). However, across instances of eye poking, a history of receiving comforting attention immediately after each instance may develop. If the child enjoys the attention that he is receiving, he may learn to poke his eyes as a means of obtaining attention. Consequently, a behavior that originally served a nonsocial function may through reinforcement history come to serve a social function. Understanding that challenging behaviors are displayed in order to serve a variety of functions is important in that it enables the educator to consider the range of functionally equivalent, socially acceptable forms of behavior that serve the same purpose as an existing repertoire of challenging behavior. Recognizing that challenging behavior may be a functional response to antecedents that are biologically or medically related or socially or nonsocially related is important if professionals are to generate viable hypotheses to test during assessment. Generating viable hypotheses addressing the cause of challenging behavior will allow the most comprehensive scrutiny of antecedents and consequences that may need to be manipulated in order to effect a deceleration of challenging behavior.

In interviewing 20 professionals who work with children who engage in challenging behavior, Reichle (1993) observed that 70% were unable to describe the possible functions served by the challenging behavior emitted by the children. For example, it is quite common for staff to report that challenging behavior is emitted because a child is angry or upset. Although accurate, this level of analysis will not result in sufficiently operationalized functions of behavior to develop viable intervention

strategies. Being able to identify the function(s) served by challenging behavior is vital if interventionists are to match intervention strategies that involve replacing challenging behavior with functional and socially acceptable alternatives.

Being Familiar with Assessment Activities A variety of assessment strategies have been described that assist the interventionist in developing and confirming a hypothesis regarding the social function of a challenging behavior. Generally, assessment strategies include 1) interviews, 2) direct observations, and 3) environmental manipulations.

As the name implies, an interview usually comprises a series of questions or checklists that must be completed by an individual who is familiar with the child and the challenging behaviors that the child emits. The goal of the interview is to 1) describe the challenging behavior(s), 2) identify when the challenging behavior is most likely to occur, and 3) identify the possible functions of the challenging behavior. Although beneficial in providing a quick and relatively easy way to begin to identify factors that may contribute to the emission of a challenging behavior, interviews are only as reliable as the observations of the informant.

Directly observing children in situations in which challenging behaviors occur and do not occur (e.g., home, preschool environments) provides the interventionist with an opportunity to corroborate information provided in interview assessment. During direct observation, information is typically obtained regarding 1) the frequency of the behavior, 2) the antecedents that may influence the behavior (e.g., time of day, people present), 3) the place or setting in which the behavior occurs, and 4) the consequences of the behavior. Reichle (1993), in delivering a workshop to 100 early childhood educators, asked how many participants regularly utilized antecedent-behavior-consequence (A-B-C) analysis (or scatterplots) in assessing the children with challenging behavior whom they served. Less than 25% of the participants responded affirmatively. When asked how many knew what these analyses were, only 50% of the participants responded affirmatively. It appears that many interventionists depend on interview and more speculative forms of data gathering to direct the process of selecting intervention strategies. Although this strategy may seem very efficient, in the long run it may result in the delivery of very inefficient and inadequate intervention.

Upon completion of interviews and direct observations, the function of a particular challenging behavior may still be unclear because specific variables that may provoke the behavior have not been sufficiently associated with it. Environmental manipulations are a helpful means of testing the hypothesis that could not adequately be tested due to confounding conditions present in the milieu of the child's regular routine. Implementing environmental manipulations involves altering par-

ticular antecedents or consequences believed to be associated with a child's emission of challenging behavior and then observing how these changes affect the behavior. For example, direct observation results may suggest that a child darts from organized activities. Although it has been documented that this outcome is quite predictable, it could occur for one of several reasons. It is possible that the child is attempting to avoid an undesired activity. Alternatively, the child may not mind participating but attempts to escape when he or she arrives at a particularly difficult step. Finally, the child's behavior may represent an overture to recruit attention from the teacher who usually chases him or her when he or she runs from the table.

In the context of the preceding example, the teacher could compare systematically the influence that task difficulty or providing attention during the tasks had on the child's emission of challenging behavior. In another comparison, the interventionist could compare what happens when the child is given periodic breaks compared to no breaks in activities that he or she typically attempts to escape. By systematically altering and comparing hypothesized factors that contribute to challenging behavior, an interventionist may be able to better match an intervention strategy to the specific motivation behind the inappropriate behavior. Unless the function(s) of challenging behavior is identified accurately, it will be impossible to design an individualized intervention program to establish functional alternatives that can compete successfully with the challenging repertoire.

Identifying Available Intervention Options Because emissions of challenging behavior often represent the product of and interaction between the child and his or her environment (Carr, Taylor, & Robinson, 1991), interventions can be directed at the child, the environment, or both (including the behavior of the persons with whom the child interacts). Given socially motivated challenging behavior, the initial decision that an interventionist must make is whether the function served by an individual's challenging behavior can be honored. For example, a child begins to throw task materials across the room as soon as they are offered (i.e., engages in escape-motivated challenging behavior). The interventionist must decide whether he or she can allow the child to escape the task (honor the function of the challenging behavior). An affirmative answer to this question suggests that it may be feasible to teach a behavior that is functionally equivalent but socially more acceptable than the existing challenging behavior (Carr, 1977; Carr & Durand, 1985). In some instances, the answer to this question will be no. That is, the function of the behavior cannot be honored. For example, a child cannot escape getting on the school bus to go home. In this case, the interventionist must consider intervention strategies that establish 1) better self-regulatory

skills for the child or 2) greater tolerance or understanding from others in the child's environment.

Interventions that Establish Functionally Equivalent Responses If the function of the behavior can be honored, it is important to find a more socially acceptable response that is functionally equivalent. That is, if the child is attempting to avoid the activity, teaching a response to request escape from the activity would serve the same function for the child as throwing the task materials. Another child may not mind initiating the task but may attempt to escape when he or she arrives at a particularly difficult step. Teaching the child to request assistance would be a more socially appropriate and functionally equivalent form of the behavior. Finally, the child's challenging behavior may be the most effective way to recruit attention. In this instance, teaching a more socially acceptable attention-getting response may represent the most appropriate replacement behavior.

If a functionally equivalent replacement behavior is indicated, it is important that it be maximally efficient from the child's perspective. Mace and Roberts (1993) have elegantly articulated four factors that may significantly influence the efficiency of any particular child response in achieving a socially motivated outcome. Responses are most efficient when they 1) result in the immediate delivery of reinforcement, 2) require reasonable response effort, 3) require a low rate of responding to achieve the desired outcome, and 4) result in qualitatively good outcomes. Developing responses that are both functionally equivalent and efficient requires precise understanding of the variables that influence the emission of challenging behavior.

In most instances, when the function served by the challenging behavior can be reinforced contingent on the emission of a more socially acceptable form of behavior, communication intervention is warranted. Although there is a rich and growing literature emphasizing the importance of selecting the most efficient communicative alternative to challenging behavior, evidence suggests that educational professionals have virtually no experience in implementing strategies with which to choose and subsequently implement effective teaching procedures (Reichle & McEvoy, 1994). Table 2 provides examples of intervention strategies that might be implemented to establish a communicative alternative to escape- or avoidance-motivated challenging behavior.

Interventions that Promote Self-Regulation Unfortunately, in some instances the function served by the child's challenging behavior cannot be honored. For example, administration of medication that helps prevent life-threatening medical emergencies cannot be escaped. In such situations, the interventionist's task is to better enable the child to engage in sufficient self-regulation that will allow at least partial participation in the

Table 2. Examples of intervention strategies for establishing communicative alternatives to escape-motivated challenging behavior

Communicative alternative	Case example
Request to take leave	A young girl who will participate in a structured activity for a brief amount of time, but begins to engage in aggressive behaviors toward her peers upon becoming bored, is taught to request a break by saying, "Break, please."
Rejecting response	A young boy who has tantrums each time he is presented with food items that he dislikes is taught to point to a card with the word "stop" printed on it.
Request assistance	A learner who engages in challenging behavior (e.g., begins to yell and throw materials) upon reaching a step in an activity that he finds difficult is taught to sign HELP.
Request attention	A learner who engages in challenging behaviors while performing an undesirable task in order to procure staff's attention (and as a result is not required to engage in the activity at hand) is taught to point to a graphic symbol containing the message, "Please visit with me."

absence of challenging behavior. Teaching self-regulatory skills to cope with situations where social functions (i.e., escape, avoidance, or obtaining attention or goods and services) cannot be honored also requires an exacting understanding of the variables that surround the challenging behavior. Descriptions of a number of interventions designed to enhance a child's propensity to continue to engage in an important but less preferred activity include environmental arrangement (reorganizing home or classroom to diminish provoking stimuli without creating disruptions or inconveniences for others) (Nordquist, Twardosz, & McEvoy, 1991), high-probability request sequences (Davis, Brady, Williams, & Hamilton, 1992), tolerance for delay of reinforcement (Davis, Reichle, & Light-Shriner, 1995), collaboration, and preferred item as a distractor. Table 3 provides several examples of these interventions that have been validated or partially validated for use when challenging behavior cannot be honored.

Recruiting and Training Technical Assistance Team Members

At the conclusion of the preservice and in-service course, individuals who wish to apply to become members of their school district's technical assistance team are recruited. Having had the significant course information described above (i.e., functional assessment activities and intervention options), potential members of the technical assistance team have obtained a very clear idea of the orientation of and related activities that they would be expected to develop. Applications are submitted to a designated school district administrator. With the permission of the appli-

Table 3. Examples of interventions addressing escape-motivated challenging behavior that cannot be honored

Intervention	Description of implementation
High-probability request sequences	In a high-probability request sequence, the interventionist delivers three to five requests to which a child typically complies (i.e., <i>high-probability requests</i>) immediately prior to delivering a request to which a child <i>does not</i> typically comply (i.e., a <i>low-probability request</i>). Compliance to the high-probability request increases the likelihood that the child will comply with the low-probability request.
Tolerance for delay of reinforcement	Teaching tolerance for delay of reinforcement is a strategy that uses two different cues: a <i>delay cue</i> and a <i>safety signal</i> . The delay cue is used to signal to the individual the wait period is beginning, and the safety signal is used to signal a release to reinforcement. The purpose of the procedure is to increase the amount of time a learner will continue to participate in an activity without engaging in challenging behavior.
Collaboration	A collaboration intervention program entails sharing with the learner the responsibility of performing an undesirable task. Prior to requesting the learner to engage in the task, the interventionist offers collaboration. In the initial stages of intervention, the interventionist may complete a large percentage of the task (e.g., the interventionist puts 75% of the toys away, the child the remaining 25%). The amount of collaboration may be decreased across opportunities (e.g., the interventionist puts 50% of the toys away, then 25%, etc.).
Preferred item as a distractor	When implementing a preferred item as a distractor intervention program, the interventionist identifies an object or activity that is preferred by the learner. This object or activity is then presented to the learner just prior to requesting him or her to engage in an activity that is likely to elicit challenging behavior. For example, a young child who dislikes riding on the bus is provided with a cassette player for distraction from this activity.

cants, course instructors provide feedback to the administrator with respect to the applicants' grasp of course content, level of participation, and diligence in the course. To date, technical assistance teams have comprised a minimum of three disciplines, including speech-language pathologists, special educators, early childhood educators, paraprofessionals, school psychologists, and occupational or physical therapists.

Once the technical assistance team has mastered the information contained in the initial coursework, a more sophisticated regimen of training is implemented that involves weekly 3-hour sessions over a period of approximately 20 weeks conducted on site at schools within the participating school district. The purpose of these sessions is for technical assistance team members to systematically apply the course information to actual cases using a case study format similar in scope and sequence to case example-focused training described by Anderson, Albin, Mesaros, Dunlap, and Morelli-Robbins (1993). This method is used to elaborate on information regarding curriculum content and best practice instructional strategies. The bulk of instruction that occurs during extended training focuses on identifying members of the child's IEP team who are in need of technical assistance.

The technical assistance team works collaboratively with university faculty and graduate students to systematically apply acquired knowledge and to expand the knowledge base of technical assistance team members. At this level of technical assistance, experienced doctoral students participate actively in the training. These students work side by side with team members in visiting classrooms, accumulating assessment data, formulating and troubleshooting intervention plans, and presenting short in-services to eventual recipients of technical assistance. The close level of collaboration among technical assistance team members and advanced graduate students provides an opportunity to establish mutual respect and collegiality that serves to create an excellent future training environment for less experienced preservice students. Over time, trainees play an increasingly greater role in the delivery of longitudinal on-site technical assistance. A chronology of extended training topics and brief descriptions of training activities are described in Table 4.

Fiscal Commitment Significant time is required to establish an efficiently operating team of professionals to deliver on-site longitudinal technical assistance to a school district in addition to creating and implementing a systematic plan of coursework and continuing in-service. Consequently, for a school district to develop comprehensive in-service and technical assistance capability requires a significant fiscal commitment. In preparing a technical assistance team, the authors have spent approximately 360 hours in training. Approximately 260 of these hours represent the direct involvement of highly trained doctoral students from disciplines that include early childhood education, special education, and speech-language pathology. The remainder of the effort represents the involvement of regular university faculty.

The cost of the project for the participating university is approximately \$15,000 in the initial year, close to \$7,500 in the second year, and about \$5,000 in the third year. Enabling each member of the technical

Table 4. Chronology of extended training topics and a description of training activities for technical assistance team members

Extended training topics	Training activities
<p>I. Working Collaboratively within an Interdisciplinary Team</p>	<ul style="list-style-type: none"> • Team members participate in a number of exercises to build their teaming skills. For example, the team members engage in role-playing exercises, working through hypothetical situations that they may encounter while working within a team model (e.g., conflicts between members, challenges presented by professionals outside of the team). • Team members are introduced to the importance of identifying roles and independently assign roles to individual team members. • Team members assess their teaming skills on an ongoing basis by evaluating their performance at team meetings.
<p>II. Development of Operating Procedures</p>	<ul style="list-style-type: none"> • Provided with guidance from university staff, team members develop a set of operating procedures to ensure that technical assistance activities are conducted in an organized manner that is consistent with district policy. For example, procedures and corresponding forms are developed and approved by district administrators that address the referral process and parental notification and consent, including videotape permission.
<p>III. Introduction of Program Tracking Procedures</p>	<ul style="list-style-type: none"> • Procedures for implementation of technical assistance activities are established and are presented to the technical assistance team members. Each task to be performed by the technical assistance team (e.g., interview process, direct observation, presenting assessment information to team members and so on) is broken down into a step-by-step format and presented in chronological order to the team members.
<p>IV. Introduction of Technical Assistance Recipient Monitoring Procedures</p>	<ul style="list-style-type: none"> • In addition to monitoring learner change, the technical assistance team members are responsible for monitoring the extent to which each technical assistance recipient participates in the technical assistance process. Team members are introduced to a number of dependent variables, which are carefully monitored throughout the technical assistance process. The team members then develop a means of collecting information directly related to these variables. For example, a rating scale may be developed and used to evaluate the technical assistance recipient's ability to generalize information and troubleshoot interventions and his or her willingness to follow

(continued)

Table 4. (continued)

Extended training topics	Training activities
V. Participation in Assessment and Intervention Activities Associated with Case Studies	<p>through with requests and carefully document learner performance.</p> <ul style="list-style-type: none"> • Each team member identifies a learner who exhibits challenging behavior and whose IEP team desires technical assistance. • One team member at a time works through all of the operating procedures, program tracking procedures, and technical assistance recipient monitoring procedures, with university personnel providing support throughout each case study.

assistance team to fully participate in team activity has required participating school districts to offer a minimum of .25 FTE salary for each of a minimum of three professionals who serve on the team. Initially, the costs incurred in implementing this program are shared by the participating university and the participating school district.

Creating a Continuum of In-Service Training within a School District

In order to maximize the technical assistance team's effectiveness, creating a comprehensive plan of in-service for schools to supplement on-site technical assistance is critical. This plan must address 1) staff attrition that will result in new staff who typically have limited experience in proactive approaches to serving children with challenging behavior, as well as 2) highly skilled staff who wish to refine their skills so that they will rarely need a consultation with a technical assistance team member. Strategies for developing a continuum of in-service training are discussed below.

Providing a Menu of In-Service Options Developing a comprehensive in-service plan requires a range of information dissemination options. Regardless of the level of in-service, adequate incentives must be offered so that staff see in-service and/or on-site technical assistance as an opportunity rather than an obligation. Consequently, a continuum of in-service activities that include university course credit, half- to whole-day procedural in-services, site-specific informal in-services, and districtwide task forces must be planned. Table 5 defines each of these levels and delineates involvement of and benefit to both the university and the public school community along with incentives for individual participants.

University Course Credit Earlier this chapter described the course as a prerequisite for applying to be a member of the technical assistance team. However, this course also serves additional important integral functions in the technical assistance operation. Many professionals working in educational settings have had minimal coursework that directly

Table 5. Continuum of in-service activities

In-service activities	Description	Benefits to individuals involved
University credit courses	Team members offer a course addressing proactive strategies for managing challenging behavior that can be taken for university credit.	Provides prospective technical assistance team members with a means of elaborating on a number of topics (including assessment and intervention strategies). Professionals within the district are offered an opportunity to acquire credit to be used for professional advancement or toward a graduate degree program.
Half- to whole-day procedural in-services	A significant amount of time is dedicated to elaborating upon a specific content area. The content area is chosen based upon the individual needs of the site. For example, three preschool teachers and their staff are interested in rearranging their classrooms in order to prevent the occurrence of challenging behaviors. Lectures, discussions, and interactive computer software are then used to convey this information.	Enables the technical assistance team to target needs within a district and to disseminate information in a thorough manner. The professionals within the district are provided with an in-depth presentation of information that directly meets their needs.
Site-specific informal services	A brief overview of topics is provided, including specific content areas (e.g., importance of conducting functional assessments, environmental arrangements, communicative re- placement) and the technical assistance process and how to communicate with the team members. Examples of specific learners' programs (including assessment, intervention, and troubleshooting strategies) are presented.	Allows the technical assistance team members to introduce topic areas in an efficient and precise manner. Provides district staff with an overview of available information and services, upon which they may pursue more elaborate technical assistance. Enables the technical assistance team members to share with their colleagues the success of the technical assistance team. It provides professionals

(continued)

Table 5. (continued)

In-service activities	Description	Benefits to individuals involved
Districtwide task forces	Task forces are developed in order to meet specific needs of district personnel. District administrators, team members, and professionals from the district come together to determine areas that warrant a task force. For example, if an inclusion program is just being initiated in the school district, the team members can be of service throughout the district in order to help facilitate the students' and staffs' transition.	in the district with an example of activities and outcomes that the technical assistance team members can help to facilitate with their individual students. Enables the technical assistance team members to focus their energy upon a specific area of need within their district. Professionals within the district are provided with resources and support to help them meet the challenges within a specific content area (e.g., inclusion, home intervention, developing appropriate IEP goals).

addresses proactive approaches to managing challenging behavior. It is far more likely that persons who received their professional degree prior to 1985 received assessment information that focused on establishing information referenced to the *form* of challenging behavior rather than its *function*. Furthermore, it is probable that intervention training focused on implementing procedures to suppress challenging behavior (i.e., time-out, overcorrection, response cost). Participation in a comprehensive course makes it far easier for recipients to obtain future technical assistance more efficiently in that significant time need not be spent providing the logic and description of the content being suggested by a technical assistance provider. Instead, a recipient with background knowledge can focus on fine tuning and troubleshooting the implementation of the procedure.

Of course, for a staff member to choose to participate, there must be an incentive. The powerful incentive of becoming a more competent professional may be jeopardized by the abundance of personal responsibilities that may compete for the time required to participate in coursework. In Minnesota, there are two additional incentives to engage in in-service coursework. First, 120 clock hours of coursework per 5-year period are re-

quired to maintain state licensure. Second, while the hours do not have to be degree bearing, additional coursework can also lead to increased salary levels based on seniority and level of education.

Half- to Whole-Day Procedural In-Services Unfortunately, the incentives just described may not be sufficient to garner the participation of all (or even the majority) of professionals. An alternative is to parse the information contained in an in-service course into a number of training modules. With these individuals it may be necessary to use regularly scheduled in-service days to present relevant information.

The technical assistance team is responsible for developing a series of 1- or 2-hour in-services that focus on actual assessment and intervention methods that have been validated or partially validated with children who engage in repertoires of challenging behavior. The authors' experiences suggest that many public school early childhood programs have a monthly staff meeting. Often, these meetings are several hours in length and are somewhat equally divided between logistical business and staff development activities.

Building/Site-Specific Informal In-Services Often, professionals are reluctant to seek individualized technical assistance in the area of challenging behavior. Informal retrospective surveys of technical assistance recipients suggest that professionals may see a request for technical assistance as an admission of competence deficiency. Data suggest that professionals are more likely to seek technical assistance regarding challenging behavior emitted by specific children if technical assistance providers are familiar with the professional and his or her classroom prior to the request (Reichle & Doss, 1994).

MECBSP works with the special education coordinator and school building principal to establish brief episodic "within building" training sessions. The purpose of these sessions is to expand on the information provided in more general districtwide in-services by applying training content to specific situations that arise in classrooms. It is particularly helpful if prior to or concurrent with these meetings, the technical assistance provider is allowed to visit the classrooms served by staff who plan on attending the meeting. This results in increased familiarity between the assistance provider and professionals. It also allows the provider to individualize examples applying assessment and intervention techniques to actual situations that arise.

In implementing site-specific longitudinal meetings, it is important that participation be voluntary. If this style of in-service is to be effective, participation should increase as a result of the favorable evaluations offered by participants to their colleagues in nonparticipating schools. MECBSP data suggest that establishing more informal in-services at the school building level is very appealing to staff. It seems to be particularly helpful in

generating momentum for change when several staff within a building are anxious to improve educational services at a buildingwide level.

Districtwide Task Forces Within several school districts participating in a comprehensive plan of in-service and technical assistance, task forces have been developed to focus on the development of a product addressing an identified need or issue that the district's identified technical assistance may not have sufficient resources to comprehensively address. These task force members may include a variety of individuals including speech-language pathologists, school psychologists, general educators, special educators, early educators, social workers, parents, paraprofessionals, physical and occupational therapists, and university graduate students. Task force meetings may occur several times a month throughout the school year. Examples of task force activities include generating instructions for requesting third-party payments for augmentative communication devices and working with school administrators on behavior conduct policies.

Establishing Input from Parent Advisory Groups

Families of children with disabilities have extremely diverse needs (Bailey & Simeonsson, 1984; Benson & Turnbull, 1986; Turnbull & Turnbull, 1986). A particular challenge is to ensure that the array of available services and resources adequately addresses a wide range of home ecologies. For example, in some instances, parents may see themselves as separate from the actual implementation of educational services. In other instances, parents may enthusiastically embrace their role as an active agent in the implementation of educational services. However, these parents may become frustrated at their inability to devote what they perceive as a desired level of involvement because of issues external to the actual delivery of service. For example, their efforts to obtain mental health or respite services, medically necessary equipment, or in-home nursing care may be consuming an inordinate amount of their time and energy. Technical assistance teams need to be aware of probable areas of need that parents have that, at first glance, appear to fall outside the realm of educational services or challenging behavior. An effective technical assistance service is willing to reasonably assist families in finding resources that address problems that may be hindering the family's ability to participate more actively in their child's education. This issue is most critically important in the area of home-based early childhood services where the parent is most apt to be placed in the role of the primary interventionist.

Providing Longitudinal On-Site Technical Assistance

Although in-services such as those just described represent important activities for a technical assistance team, they are not sufficient. Many in-service recipients require careful on-site shaping of their assessment and

intervention skills to effect child change. Doss and Reichle (1989) examined the outcome of technical assistance in which assessment and intervention strategies were discussed at regularly occurring meetings outside of the actual site of implementation with participants who were licensed as skilled behavior analysts in the state of Minnesota. Assessment and intervention decisions were based on data brought to the meetings by staff. Meetings were held once every 2 weeks. Approximately 40% of the children who were the focus of the consultations made progress, as demonstrated by dependent measures on challenging behavior deceleration as well as data on replacement skill acquisition. As the in-service project progressed, an increasing portion of technical assistance requests was directed at serving children who were improving while progressively less time was spent on children with whom the program was not successful. When asked to spend a greater proportion of meeting time discussing children who were less successful, interventionists often reported that the behavior of the child in question was no longer really a problem. Throughout the delivery of technical assistance, observers were regularly on site to observe the implementation of intervention procedures and social interactions between staff and clients. As a result of the summary of these data, it became clear that children with whom interventionists made the least progress were those who 1) interventionists spent the least discretionary time with prior to the initiation of technical assistance, 2) made no immediate progress when technical assistance programs were implemented, and/or 3) exhibited more severe aggression directed at staff.

Subsequently, technical assistance was delivered on site twice weekly. During these sessions, the technical assistance provider worked directly with staff to coach them in implementing intervention procedures. Over approximately a 6-month period, staff participation was shaped. Without the capability of presenting direct and regular on-site feedback, it is doubtful that many of the professionals with whom the technical assistance team worked would have reliably implemented intervention strategies.

Evaluating and Troubleshooting Problematic Technical Assistance Strategies

At the crux of delivering effective technical assistance are dependent measures that allow careful scrutiny and revision of problematic technical assistance strategies. Traditionally, technical assistance activities have been evaluated modestly for two reasons. First, if effective troubleshooting activities are to be put in place when a desired educational or social outcome is not being achieved, technical assistance providers must be prepared to analyze the intervention systematically. Second, a technical

assistance team must be placed in a position to demonstrate the value of its services to justify expenses associated with maintaining a technical assistance team as a recurring budget item.

The most probable evaluation component consists of a consumer satisfaction of professionals receiving technical assistance. Unfortunately, the results from these surveys may not be strongly correlated with a recipient's knowledge gained or ability to implement information provided. More objective data often used to evaluate technical assistance activities focus on learner change data. These data often emphasize decreases in the rate, intensity, or duration of the challenging behavior. Although decelerations of any problem behavior are desirable, these data are less impressive unless, at the same time, engagement in desired social or educational activities is improving. Consequently, dependent measures need to focus at minimum on two sets of behaviors: 1) challenging behavior, and 2) socially acceptable behavior that competes with challenging behavior.

Since the early 1980s, investigators have turned to issues of social validity. That is, even though child change can be demonstrated empirically, it will have little overall impact if those who spend significant time around the child cannot notice significant changes in behavior. Consequently, individuals who regularly come in contact with children/professionals being served through technical assistance need to provide their perception of the child's ability to function in the environments that are the focus of intervention activities.

One aspect of child change data that is frequently overlooked involves measures of procedural reliability. That is, if an interventionist has assisted in designing an intervention plan, can he or she implement it reliably? Without longitudinal and direct contact with the individual implementing technical assistance, procedural reliability is rarely scrutinized. Considering the reliability of the implementation assessment and intervention procedures seems particularly important given recent empirical results suggesting that procedures to establish instructional objectives are often either not implemented or implemented incorrectly (Reichle & Doss, 1994). Procedural reliability examined in the presence of a technical assistance provider may offer little insight into the rigor or regularity with which an intervention strategy is actually implemented in the absence of the technical assistance provider. That is, the interventionist may diligently implement a procedure recommended by a technical assistance provider during visits, but in the absence of the technical assistance provider, there may be sparse implementation.

Sometimes procedural reliability might be better viewed in a larger context of actually consulting with those who interact with an individual

who engages in challenging behavior, as in some instances, the challenging behavior may be provoked by the behavior of those who interact with the child. For example, a child may attempt to escape task demands requiring immediate compliance that are offered in the absence of any choices. If the interventionist could alter his or her style of delivering choices, allowing the child to control the order in which he or she completes tasks and allowing a slightly larger window of time, the challenging behavior might diminish significantly. In this instance, one can listen to feedback from observers and role play regarding more fruitful interaction strategies to be implemented with the child for which procedural reliability must be obtained. However, in reality, the recipient of technical assistance (i.e., the staff member receiving technical assistance) is the primary target for behavior change. Procedural reliability then actually represents the primary dependent measure of interest.

The authors' experience suggests that some interventionists may not be willing to implement an intervention procedure that permits a child to escape an undesired activity contingent on the emission of a more socially acceptable communicative alternative. For example, teachers may not be willing to allow a child to terminate an activity after the child touches a graphic symbol that requests task termination. Other staff may not be willing to shorten the length of the activity that would allow a history to develop where the child can be taught to participate without challenging behavior and be released after good rather than challenging behavior. In each of these instances, the interventionist simply may not accept the loss of instructional control inherent in each strategy. Technical assistance providers must therefore take great care to work collaboratively with the team serving the child to lay the necessary rationale for any intervention strategies offered. All team members must feel comfortable implementing intervention strategies before they are put in place. However, frequently this strategy is not considered as a viable option for increasing the participation in the intervention process among recipients of technical assistance.

As discussed earlier, offering menus of intervention options significantly increases the probability that interventions better match the teaching and interactional skills of interventionists. The key to establishing reliable and fluent implementation of instructional programs requires that the technical assistance provider 1) determine that intervention strategies recommended are commensurate with the teaching style and beliefs of the implementers and the child's family, and 2) ensure that the technical assistance recipients are willing to implement strategies with necessary rigor and fluency. Evaluation of technical assistance must include dependent measures that focus on the participation of recipients as well as on the child's emission of challenging behavior and his or her

emission of proactive alternatives. It is also important to have some measure of the social validity of the effects of technical assistance implementation. These measures may include the perception of those familiar with the interventionist's and child's pre- and posttechnical assistance activities. Finally, the perception of value of technical assistance from the recipients represents important data that bear directly on the user friendliness and clarity of technical assistance provided.

Future Directions for Establishing Collaboration Between Public Schools and Universities

There is a propensity for university tradition and administrative bureaucracy to either limit or discourage greater collaborative coordination of preservice and in-service training. To combat this propensity, there are a number of strategies that universities could pursue to take advantage of collaborative relationships that have been established during the implementation of a rigorous plan of in-service and technical assistance. Some of these activities are discussed briefly below.

Cost-Sharing Practicum Supervision To a significant extent, university training programs follow one of two strategies to supervise graduate and undergraduate trainees in student teaching and practicum activities. In one model, the university depends almost exclusively on the goodwill of professionals in the field to accept student trainees. This model requires significant volunteerism on the part of the receiving professional. Even when the professional is diligent and highly motivated, there is no mechanism to ensure the integration of preservice coursework with practicum activities because the supervising professional may not have matriculated through the preservice student's training program. Correspondingly, there may be limited incentive for the supervising professional to participate in preservice coursework to ensure that there is a common background across supervisor and trainee.

In an alternative model, the university training program provides the practicum supervision via a university staff member. In an applied setting, this option has the potential advantage of providing feedback continuity across preservice coursework and implementation of that information in practicum settings. However, this model presents a very inefficient and potentially awkward method of supervision. It places the practicum student in a position to receive feedback from on-site staff as well as from the university supervisor. When feedback is inconsistent across these two sources, all parties are placed in an awkward situation. Additionally, this model of supervision is very duplicative in terms of resource deployment by assigning both a community-based and a university-based supervisor to any given practicum student. It should be possible to provide adequate incentives to public school professionals to

ensure that they have a base of information that is consistent with the students whom they supervise as well as to ensure more intensive coparticipation by public school professionals in the mentoring of graduate-level preservice students.

One strategy to create an incentive for better coordination between universities and public schools involves the two working directly to coordinate state Department of Education continuing education requirements with local service providers' criteria for merit salary increases. For example, the state of Minnesota requires that all educational professionals take continuing education courses in order to maintain their teaching licensure. In addition, professionals (teachers, psychologists, speech-language pathologists, etc.) working in public schools can use university credits in a field related to their professional degree for a salary "bump." However, in order to accrue this credit, the professional must pay for the university credit rather than the service provider for whom they work. One viable option for university training programs is to offer tuition vouchers to supervising professionals. Although an empirical question, this strategy should result in sufficient incentive to ensure that supervisors share common content information with students whom they might be called upon to supervise.

Sharing a common content base is important but represents only an initial step in truly collaborative in-service/preservice coordination. To continue collaboration, participating public school professionals must assume a mentoring role to bridge preservice course information with practicum experiences. However, this must be a shared responsibility between school professionals and university personnel. This means that university personnel who teach method-related coursework should spend a significant portion of their effort at community training sites. Time spent should encompass the provision of technical assistance and collegial support to establish commonality between methods taught in coursework and those practiced in practicum settings. Furthermore, selected public school professionals who collaborate in preservice training activities should serve as reimbursed consultants to the preservice training program. It is unrealistic to assume that participation in training activities that go significantly beyond regular employment requirements should represent a totally voluntary activity. Potential recurring funding mechanisms to pay for public school professionals' work as consultants and provide them with tuition stipends include 1) redistributing monies currently allocated to practicum supervision, and 2) creating focused continuing education activities that generate income.

Money currently allocated within a university for practicum supervision could be reallocated to designated public school mentors. For example, the university might cost share positions with a school district

in return for the school district guaranteeing a specified amount of supervision. In addition to reallocating existing monies used for practicum supervision, supplemental income to support collaboration between universities and public schools can be generated via university coursework. To this point in the chapter, community-based coursework has been discussed in terms of its educational value. However, an additional outcome of this activity could be the generation of recurring funds to provide a financial incentive for community mentors by utilizing funds derived through the development of continuing education course offerings. For example, at the University of Minnesota, over 50% of the enrollment fee of extension coursework offered is returned directly to the sponsoring department. Offering a plan of applied coursework aimed at both preservice and practicing professionals could generate a substantial income to provide financial incentives to school districts or professionals within school districts who wish to collaborate with universities in preservice training activities. For university faculty, creating a funding mechanism for key public school collaboration seems highly desirable in a climate of shrinking federal dollars to support educational research and training.

Creating a Curriculum Advisory Board Preservice training programs must address their personnel preparation activities to the criteria of the needs of consumers and service agencies that will employ graduates. The university, through coursework and collaboration, has an opportunity to influence those criteria. Equally important is the opportunity for university preservice programs to be influenced by the experience and views of service providers and families. Establishing a curriculum advisory board represents an opportunity to obtain this information in a regular and systematically organized fashion. Parents and consumers represent a critical validating component in designing any educational activity. Planned educational activities should have a significant positive impact on consumers and their families. Therefore professionals must seek out the collaboration of those whom they serve and work jointly to improve service delivery.

The inclusive service delivery in which professionals are mandated to work and to which parents entrust their children represents a vastly different educational environment from that available in the 1980s and earlier. In spite of tremendous advances, many teachers and related personnel openly voice concern about their ability to serve children with challenging behavior. Ironically, a significant methodological expertise exists to serve these children. Furthermore, methodological advances will be compromised unless educators can benefit from them by infusing them into the service delivery system. This infusion will require a major and joint effort by researchers, personnel preparers, public school professionals, and parents.

CONCLUSIONS

Anderson et al. (1993) concluded that "inservice training by itself is not sufficient to ensure accomplishing all of the outcomes desired for effective education and support systems for people with developmental disabilities . . ." (p. 363). The current authors share their orientation that comprehensive training must be useful to a wide variety of professionals and families. Furthermore, it is impossible to divorce in-service training needs from preservice training needs. Unattended preservice needs later become in-service and technical assistance needs.

Coordinating efforts to improve preservice and in-service training involves a number of levels of partnerships. Public school administrators and university personnel must become partners in planning the system that will support coordinated training. University professionals must develop mutually beneficial collaborations with public school professionals and parents. Finally, university preservice students must develop collaborative relationships with university faculty and public school mentors. When preservice students and public school professionals are well trained and actively collaborate with families, they will have a far greater probability of positively affecting the lives of the persons with challenging behavior whom they serve.

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Appendix: Example of Sample Course Syllabus

EPSY 5900: Proactive Approaches to Managing Challenging Behaviors in Young Children

Instructors:

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Purpose of the Course: The purpose of this course is to discuss positive intervention alternatives for individuals who engage in challenging behavior. A large segment of the course will address 1) intervention strategies aimed at replacing challenging behavior with communicative alternatives, and 2) organizing classrooms to decrease the probability of the occurrence of challenging behaviors while at the same time facilitating social interactions.

Format of the Course: Each week approximately 60 minutes will be devoted to the presentation of assessment and intervention strategies. The remaining 45 minutes will be spent actively applying the information in group activities.

Course Objectives:

1. To familiarize students with the range of assessment strategies that may be used to determine the function of challenging behavior
2. To familiarize students with the range of positive intervention strategies for individuals who engage in challenging behavior (e.g., behav-

ioral momentum, communicative replacement, environmental rearrangement)

3. To familiarize students with ways to modify intervention strategies for individuals who have severe communication deficits

Student Responsibilities in this Course:

Required Readings: Readings will be assigned relative to each topic. Students should complete the readings prior to the class session in which they will be discussed. The text (Durand, 1990) is available at the University of Minnesota Bookstore (Williamson Hall). All additional readings will be distributed in class.

Functional Assessment: Students will be required to complete a functional assessment of behaviors and summarize the results of this assessment. Interview, Direct Observation, and Summary forms will be provided.

Intervention Plan: An intervention plan based on the results of the functional assessment of behaviors will be developed. This plan will draw from the intervention methods presented in class. Forms for completing the intervention plan will be provided.

Grades: Each assignment is worth a total of 10 points. Ten points will be awarded if the assignment is satisfactorily completed and handed in on time.

Assigned Readings:

Durand, V.M. (1990). *Severe behavior problems: A functional communication training approach*. New York: The Guilford Press.

Excerpts from O'Neill, R.E., Horner, R.H., Albin, R.W., Storey, K., & Sprague, J. (1990). *Functional analysis: A practical assessment guide*. Sycamore, IL: Sycamore Press.

Excerpts from McEvoy, M. (Ed.). (1990). Organizing caregiving environments for young children with handicaps. *Education and Treatment of Young Children*, 13(4).

Reichle, J., & Johnston, S. (1993). Replacing challenging behavior: The role of communication intervention. *Topics in Language Disorders*, 13(30), 61-77.

Excerpts from Reichle et al. (in prep). *Intervention module*. Developing and Evaluating a Model of Inservice and Technical Assistance to Prevent Challenging Behavior in Preschoolers (Grant # H024P10017).

Outline of Topics to Be Addressed in this Course:

<u>Week</u>	<u>Date</u>	<u>Course Outline</u>
1	2/3	<p>Topic: Introduction</p> <ol style="list-style-type: none"> 1. Pretest 2. Overview of the Course 3. Socially Motivated and Nonsocially Motivated Challenging Behavior 4. Relationship Between Communication and Challenging Behavior 5. Communicative Functions of Challenging Behavior <p>Activity: Group discussion of videotape examples</p> <p>Assigned Reading: Reichle, J., & Johnston, S. (1993) and Chapter 1 and Chapter 2 (Durand, 1990)</p> <p>Instructors: Feeley & Johnston</p>
2	2/10	<p>Topics: Functional Assessment of Challenging Behavior</p> <ol style="list-style-type: none"> 1. Purpose of Assessment 2. Functional Assessment Strategies 3. Relative Strengths and Weaknesses of Specific Strategies <p>Activity: Collecting and summarizing information from direct observations</p> <p>Assignment: Assessment of student (due week 4)</p> <p>Assigned Reading: Chapter 1 and Chapter 3 (Durand, 1990)</p> <p>Instructor: Johnston</p>
3	2/17	<p>Topic: Functional Assessment of Challenging Behavior (cont.)</p> <p>Activity: Collecting and summarizing information from direct observations</p> <p>Assigned Reading: Chapter 3 (Durand, 1990)</p> <p>Instructors: Feeley & Johnston</p>
4	3/3	<p>Topic: Environmental Arrangements</p> <ol style="list-style-type: none"> 1. Schedules 2. Environmental Rearrangement <ul style="list-style-type: none"> • Rationale for Rearranging the Environment • Classroom Arrangement

- Selecting and Arranging Materials

Activity: Small group brainstorming

Assignment: Assessment of student due at beginning of class

Assigned Reading: Reichle et al. (in prep) and McEvoy, M. (1990)

Instructor: Feeley

5 3/10

Topic: Interventions that Do Not Honor the Communicative Function of the Challenging Behavior

1. Choice Making
2. Prespecify the Reinforcer
3. Preferred Item as a Distractor

Activity: Small group brainstorming

Assignment: Intervention program for student (due week 8)

Assigned reading: None

Instructor: Johnston

6 3/17

Topic: Interventions that Do Not Honor the Communicative Function of the Challenging Behavior (cont.)

4. High Probability Request Sequence
5. Tolerance for Delay
6. Collaboration

Activity: Evaluating an intervention program and data and troubleshooting the intervention program

Assigned Reading: Reichle et al. (in prep)

Instructor: Feeley

7 3/24

Topic: Modifications to Intervention Strategies for Individuals Who Have Severe Communication Deficits; Intervention Strategies that Honor the Communicative Function of the Challenging Behavior

1. Communicative Replacements for Challenging Behaviors that Serve the Function of Escape/Avoid

Activity: None

Assignment: Intervention program for student due at beginning of class

- Assigned Reading:** Chapter 4 and Chapter 5
(Durand, 1990)
- Instructors:** Feeley & Johnston
- 8 3/31 **Topic:** Intervention Strategies that Honor the Communicative Function of the Challenging Behavior (cont.)
3. Communicative Replacements for Challenging Behaviors that Serve the Function of Obtain Access
 4. Additional Considerations
 - Functional Considerations
 - Response Efficiency
- Activity:** None
- Assignment:** Intervention program for student due at beginning of class
- Assigned Reading:** Chapter 4 and Chapter 5
(Durand, 1990)
- Instructors:** Feeley & Johnston
- 9 4/7 **Topic:** Prompting Strategies; Learner Progress Monitoring
- Activity:** None
- Assigned Reading:** Handouts
- Instructor:** Feeley
- 10 4/14 **Topic:** Case Study; Model of Inservice Training and Technical Assistance; Posttest; Course Evaluations
- Activity:** Bringing It All Together
- Assigned Reading:** Technical Assistance Model Overview
- Instructors:** Feeley & Johnston