



AMERICAN INSTITUTES FOR RESEARCH

# ELEMENTARY AND MIDDLE SCHOOLS TECHNICAL ASSISTANCE CENTER



PROVIDING TECHNICAL ASSISTANCE  
TO LOCAL SCHOOL DISTRICTS:  
LESSONS LEARNED

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## HIGHLIGHTS

The Elementary and Middle Schools Technical Assistance Center, funded by the U.S. Office of Special Education Programs from 1997-2002, developed and evaluated a technical assistance model to link local school districts with research based practices. The Center used a Linking Agent approach in which a school district professional (or team) was trained and supported to implement Havelock's (1995) change process cycle to bring about improved services and outcomes for students with disabilities.

The Center developed and compared three variations of the model: Strategy I districts were provided salary and expense support for the Linking Agents as well as face to face training and support from the Center; Strategy II districts were given an honorarium (\$1,000) for the Linking Agent, plus face-to-face training and Center assistance as needed; Strategy III districts were provided no monetary support for their Linking Agent, who was trained and supported at a distance through web-based and other electronic means. The effectiveness and costs associated with each of the three strategies were assessed, along with different methods of recruiting districts and other aspects of operating the Center. The major findings and conclusions are:

- **A national technical assistance center can effectively help school districts build an ongoing capacity to solve problems.** Over time, Linking Agents became more self-reliant in working through the change process as indicated by interview data and by the number of requests for support. For example, although Linking Agent requests for Center support steadily declined over time (e.g., from 2.28 monthly contacts to .42 contacts), Linking Agents continued to work through the change process, and some began initiating the change cycle to address a second and third improvement activity.
- **Scaling up technical assistance is an interpersonal process.** In comparing different methods of recruiting school districts--personal contacts (professional contacts, strategic partner contacts) versus impersonal contacts (mailings, phone calls, internet)-- the most effective recruitment methods involved personal interactions.
- **Effective scaling up of technical assistance will utilize technology.** In view of the large number school districts across the nation (approximately 15,000) and the limited resources to provide on-site technical assistance, increased use of the internet and other distance-based methods to deliver assistance appears inevitable. Even the most effective regional approaches and training-of-trainers models have not begun to reach a significant number of districts.
- **Less costly forms of technical assistance can be effective.** Across the three TA strategies there were no significant differences in the rate at which Linking Agents worked through the change process, even though there were significant differences in Center costs to train and support the Linking Agents. With certain caveats, this finding suggests that an internet, distance-based approach to TA can be an effective delivery mechanism. This was evident on two measures: the Linking Agent Implementation Scale and progress through the stages of Havelock's change cycle.

- **Technical assistance users largely drive technical assistance costs.** Although there were, by design, major cost differences among the three strategies, there were greater differences within strategies. That is, within each strategy there were high cost Linking Agents (those who used Center assistance extensively) and low cost Linking Agents (those who were more self-reliant or who relied on other supports). Strategy III (web-based, distance training and support) was the most cost effective of the three strategies, but only when projecting its application to large numbers of districts.
- **Local motivation and capacity are essential elements in school change and improvement.** The most consistent predictors of progress through the change process were district and building leadership, collaboration between the Linking Agent and key district staff, Linking Agent support from the Center, and district history of improvement activities.
- **Technical assistance can support the sustained implementation of research-based practices that improve student outcomes.** Positive student outcomes were observed for a subgroup of 14 school districts that received technical assistance for at least two years. Positive student outcomes, observed at one or more districts, included increased reading vocabulary and comprehension skills, increased participation in general education classes, reductions in the number of conduct violations, reductions in minority student referrals for special education, and improved performance on statewide tests.

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## INTRODUCTION

To enhance our nation's knowledge regarding technical assistance delivery and to address the significant national problems in educating elementary and middle school students effectively, the U.S. Office of Special Education Programs (OSEP) awarded the *Elementary and Middle Schools Technical Assistance Center (EMSTAC)* to the American Institutes for Research (AIR) on October 1, 1997. Over the last five years, EMSTAC developed, implemented, and evaluated a national program of technical assistance for local elementary and middle schools.

This report has six main sections. The remainder of this section discusses EMSTAC's goal of understanding effective methods of delivering technical assistance. Sections 2 and 3 describe, respectively, major features of EMSTAC's TA model and its evaluation activities. Section 4 presents major findings derived from the evaluation, while Section 5 discusses lessons learned from EMSTAC's work. The final section provides concluding comments and implications of our work. Throughout the text, we quote EMSTAC Linking Agents as *Voices of Experience* to illustrate our technical assistance activities and major findings. Information about the sample of participating school districts, instruments used to collect evaluation data, available student outcome data by district, and selected EMSTAC presentations and products is appended.

### The Setting for Local TA

Many districts across the nation face substantial challenges in establishing effective programs that support learning and high achievement among students with disabilities. These same issues may also be apparent at the state level and intermediate

unit levels. Technical Assistance (TA) providers are often in a position to assist local school districts

#### *Voices of Experience*

*During my tenure as a Linking Agent, I was able to bring research-based practices in early literacy and reading comprehension to several schools in my school district. These practices have helped students with disabilities and students at risk for school failure experience meaningful participation in general education classes. Our data show that these practices have improved students' ability to read and comprehend both narrative and expository text.*

EMSTAC Linking Agent

to address these challenges. However, several variables may restrict a TA provider’s ability to effect change at the local level. Factors such as limited knowledge of change processes, lack of access to research-based findings related to TA delivery, limited experience using technology-based methods, and limited resources, may diminish or limit the effectiveness of the provider’s work. Assisting school districts is becoming more manageable, however, due in large part to advances in technology and the growing body of knowledge related to school change and improvement methods.

Our work under EMSTAC provided an opportunity to learn about TA delivery to a group of school districts located in states across every region of the country. We believe that what we learned in delivering and evaluating our TA approach can be useful to administrators, teachers, policy-makers, and TA providers, as these audiences implement and benefit from TA efforts. To share our findings, we developed this report to help other TA providers consider different TA delivery strategies.

## A Heightened Understanding of TA Delivery

Like other professionals, TA providers seek to improve the methods they use to connect teachers and administrators with new information, and to reach as many schools and districts as possible. However, TA providers often work in environments where professional development and technical assistance budgets limit the scope of their work. These conditions push TA providers to search for quality-driven and cost-effective ways to share information, materials, and tools to improve outcomes for students with disabilities.

### *Voices of Experience*

*Before EMSTAC, I didn’t see research as being very important because I was on day-to-day survival mode. Now I am willing to highlight important information and then write a short note about the article for the teachers.*

EMSTAC Linking Agent

Our research may help TA providers maximize their impact by sharing information about:

- Building local capacity to implement scientifically validated practices.
- Enhancing the scope of TA delivery.

- Building local knowledge and problem-solving capacity through the use of distance education methods.
- Implementing strategies to minimize the costs of TA delivery without compromising quality of service.

EMSTAC had an overarching goal of demonstrating how to move OSEP-sponsored research findings into practice. Toward that end, over the last five years, we worked to recruit an increasing number of school district partners, supported these districts' effective use of research-based practices, and collected outcome data as evidence of EMSTAC's impact on participating districts, schools and students. We hope that our findings will help other TA providers improve their TA services and, thereby, improve services and outcomes for students with disabilities.

## A DESCRIPTION OF EMSTAC

Prior to presenting our findings about providing TA to school districts, we describe below the overall context for our work. Following are the major features of EMSTAC, including its conceptual structure and TA delivery methods.

### EMSTAC Cycle of Change

A major objective of our work involved building the capacity of local school districts through training school professionals (EMSTAC Linking Agents) to understand the process of change and to improve existing school and classroom practices.<sup>1</sup> For the change part of the training, we developed instructional modules related to Havelock's (1995) seven-stage cycle of change:

- **Care** – Identifying local needs and facilitating interest to address a particular problem.
- **Relate** – Garnering support from colleagues to address the problem.

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<sup>1</sup> EMSTAC's approach for training Linking Agents in the change process was based on research from the 1970's and early 1980's by Ronald Havelock (1973,1995), among others. Using Havelock's change model as a framework, EMSTAC developed training modules for the seven-stage change cycle, which were delivered either face-to-face (Strategy I and II) or on the EMSTAC website (Strategy III). The most recent description of the seven-stage cycle, as applied to Special Education change efforts, will be presented in a new publication: Havelock, R. & Hamilton, J. *Guiding Change in Special Education* (manuscript accepted for publication).

- **Examine** – Analyzing the problem more closely and planning how to identify and evaluate potential, research-based solutions to address the target problem.
- **Acquire** – Knowing where and how to look for appropriate resources for research-based practices and developing means to obtain them.
- **Try** – Implementing new programs and interventions and continuously evaluating their effectiveness in the school/classroom.
- **Extend** – Expanding what works to additional classrooms and schools within the district.
- **Renew** – Continuously evaluating existing school and classroom practices and searching for solutions to improve results for students with disabilities.

In addition to training Linking Agents to implement the seven-stage change model, we also provided them with information about how to connect their school districts with research-based practices. This included website addresses for national TA centers and clearinghouses, such as OSEPs’ Technical Assistance and Dissemination Network, national professional

***Voices of Experience***

*I was able to develop staff development activities based on the information provided on change. We trained over 200 members of the School District staff based on EMSTAC information.*

EMSTAC Linking Agent

organizations, and other entities that disseminate such information. We also posted on EMSTAC’s website an array of products, including research syntheses, instructional principles, commercially available programs and models, tips for teachers, frequently asked questions, and other resources. These products described research-based practices in a variety of areas (reading, behavior, access and inclusion, and disproportionate representation). Included in Appendix D is a list of EMSTAC products that were available through our website.

### **EMSTAC TA Delivery Model Variations**

We employed three strategies to vary how the EMSTAC model was implemented across different school districts. Information about the distinguishing characteristics of each strategy is presented below:

- **Strategy I Training** was provided to an initial cohort of Linking Agents during a face-to-face training session held in Washington, D.C. during the fall of 1998. In Strategy I districts the:
  - Linking Agent was an employee of the school district.
  - Linking Agent position was monetarily supported through an EMSTAC subcontract with the district.
  - TA Liaison (EMSTAC staff member) made recurrent site visits to the district and provided proactive technical assistance support to the Linking Agent. In addition, EMSTAC provided monetary support for selected TA events in the district.
  
- **Strategy II Training** was provided face-to-face to individuals or regional cohorts of school staff beginning in the spring of 1999. For Strategy II districts the:
  - Linking Agent was employed and compensated by school district.
  - Linking Agent (or school district) received a \$1,000 honorarium for participating in EMSTAC training.
  - TA Liaison made site visits infrequently (for training Linking Agents, collecting evaluation data and providing technical assistance as needed).
  
- **Strategy III Training** was provided at a distance to school staff through participating in an interactive, self-paced, web-based training program, beginning in the Spring 2000. In Strategy III districts the:
  - Linking Agent was employed and compensated by the district.
  - No compensation or honorarium for the Linking Agent was provided by EMSTAC.
  - TA Liaison made no site visits to local districts; Linking Agent received support through electronic forums, such as threaded discussions, web-based products, chat events, and videoconferencing.

In general, the three EMSTAC strategies varied (a) the degree to which school districts were compensated for their EMSTAC participation, (b) formats and places (face-to-face versus at a distance) where Linking Agents received their *change process and linking* training, and (c) amount and kind of support that the EMSTAC TA Liaisons provided to Linking Agents after their training was completed. As previously noted, we examined the costs and effects of our technical assistance model across the three strategies as well as other services provided by the Center.

## DESCRIPTION OF EMSTAC EVALUATION

In an effort to develop a national technical assistance model, EMSTAC provided technical assistance services to a number of school districts across the country. This work provided us with the opportunity not only to evaluate each of our three TA strategies but also to evaluate the services and products that EMSTAC made available at the school district level.

EMSTAC developed a logic model (Mesmer, Hamilton, and McInerney, 1998) to depict the multi-level aspects of its evaluation, including assessing the effectiveness of its school district recruitment methods, TA support and strategies, local implementation of research-based practices, and outcomes on local districts, teachers, and students. The EMSTAC logic model was developed to identify each of the multiple factors that would be tracked in the evaluation. Additional details of EMSTAC's evaluation activities are described below.

### **EMSTAC Logic Model**

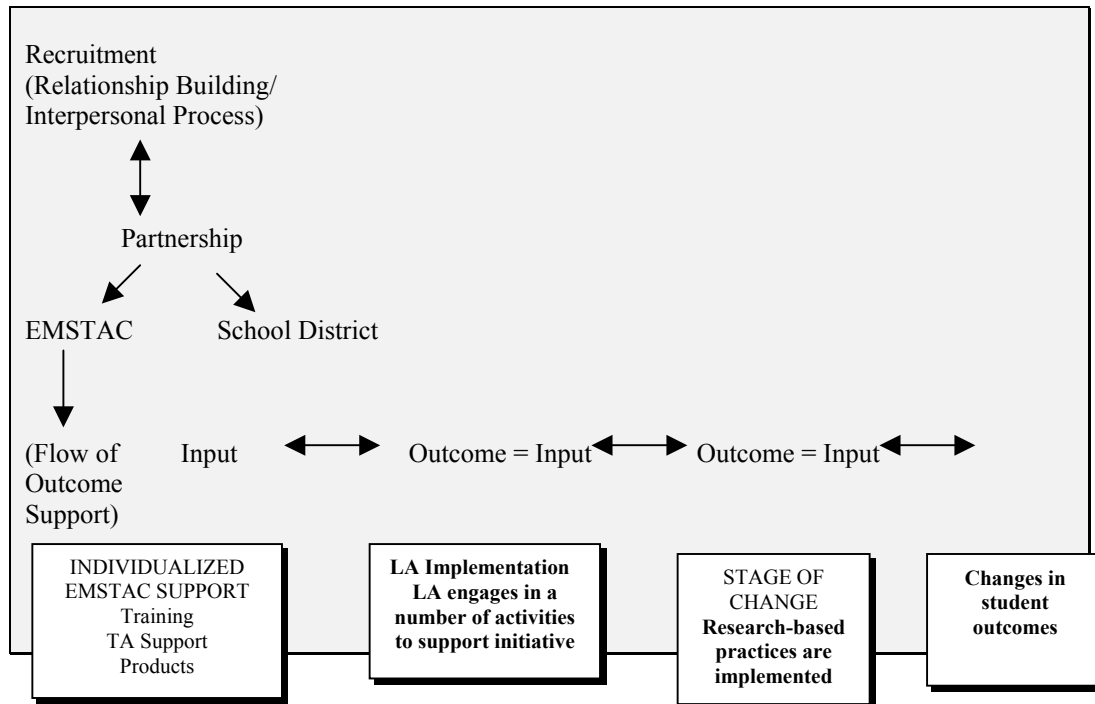
The EMSTAC evaluation reflected our conceptualization of the hypothesized path by which the three technical assistance strategies would impact local school districts.

Generally, each technical assistance strategy involved forming relationships between an EMSTAC TA Liaison (seasoned staff member with content knowledge and practical experience) and an individual or team of individuals working in the school district (Linking Agent). Through the Linking Agent, EMSTAC supported and brought resources to bear on educational needs that were identified locally. Thus, these TA supports were designed to bring about school change and the use of research-based practices in schools and classrooms. This process is reflected in the *TA Logic Model* (see Exhibit 1).

The logic model reflects the process by which EMSTAC services were made available to local school districts. Importantly, the logic model did not change based upon the particular TA strategy being examined. As can be seen in the model, there are a number of steps that must be

accomplished in order for technical assistance supports to improve student results. EMSTAC’s evaluation process focused on each of these steps and the relationships among them.

## EXHIBIT 1 TA LOGIC MODEL



### Evaluation Goals and Critical Questions

The evaluation activities over the five-year period were intended to address a number of different questions that have implications for technical assistance service delivery at both the national and local level. While the specific evaluation questions that were examined from one year to the next changed to reflect the previous year’s findings, the general goals and focus of the evaluation remained the same. In particular, there were three broad areas that the evaluation focused on, as indicated in Exhibit 2.

## EXHIBIT 2

### EMSTAC EVALUATION QUESTIONS

- ***Comparison of Three TA Strategies***
- How do the three TA strategies compare in facilitating change initiatives within school districts?
- What are the costs associated with each TA strategy?
- Do any of the three TA strategies have a clear advantage in assisting schools in their capacity to build and sustain mechanisms that will support continual improvement?
- Are there differences in the work conducted by TA Liaisons across strategies?
- ***Examining Strategies for Recruitment or Going to Scale***
- What are the most effective ways of scaling up or recruiting new districts for involvement with a national technical assistance entity?
- ***Evaluation of the Impact of EMSTAC Supports***
- Have school professionals increased their awareness of research-based practices?
- Has information regarding research-based practices permeated at the local level?
- Are EMSTAC districts moving through a cycle of change in their efforts to implement research-based practices and does implementation of research-based interventions improve student learning and behavior?

### **Data Collection Instruments, Procedures and Analysis**

The data collection process was multi-dimensional including the use of a number of evaluation instruments and sources of data. Both quantitative (e.g. survey) and qualitative (e.g. interview) data were collected. Our primary dependent measures were two instruments developed to assess district progress in identifying, implementing, and sustaining the TA we provided. The *Linking Agent Implementation Continuum Scale* is a 16 item instrument which measured the degree to which change initiatives were being carried out in the school district, such as conducting a needs assessment, establishing program goals, working with teachers and administrators, and identifying research-based practices. The *Havelock Stage of Change Scale* is a seven-item scale (the items corresponding to Havelock's change model) that was used to measure Linking Agent progress in moving through the change cycle. We also collected school records of student performance that

were available. Appendix B contains descriptions of key EMSTAC instruments. Copies of these instruments can be found in Hamilton et al. (2002).

Data collection from EMSTAC districts occurred at specific intervals. Typically, these intervals coincided with the end of each school year. This data collection schedule enabled us to examine the progress that a particular district was making relative to a particular change initiative. In addition the multiple data points allowed for across-TA strategy comparisons in order to determine the differential effects of each strategy across a number of years. Because of the varying lengths of time that we worked with school districts in each of the three strategies, the number of data collection points also varied. In Appendix A, we describe the number of school districts we partnered with, across several dimensions.

Following each annual data collection cycle, quantitative and qualitative procedures were used to code, score, and analyze the data. The quantitative analyses included calculation of simple descriptive statistics as well as the use of a number of non-parametric procedures to answer more complex questions regarding the relationships among variables. The goal of the qualitative analysis was to help make sense of the quantitative data and to better understand the contexts and activities of the Linking Agents and school district personnel. Essentially, qualitative analyses were used to corroborate findings from the quantitative analysis, identify new leads, and provide rich examples of EMSTAC implementation and impact from local districts and schools where TA services and schooling come to life.

## **OVERVIEW OF MAJOR FINDINGS**

This section presents the seven major findings of the EMSTAC evaluation. Some of what we learned from our research was surprising (such as the effectiveness of low cost and distance TA strategies), while other findings were not so surprising (such the importance of interpersonal relationships in TA). However, these findings, collectively, have provided a base of empirical

evidence about critical features for a national model to deliver TA to school districts across the country.

Each of our seven findings is discussed below. The evaluation data for these findings were, as noted previously, collected at different points of time and with different samples of participating districts. We identify the sample size for each lesson in Appendix A.

## **A National Technical Assistance Approach Can Effectively Build Local Capacity to Solve Problems and Improve Instruction**

Despite decreasing requests for assistance from EMSTAC, participating school districts successfully continued their efforts to improve outcomes for students with disabilities, thus demonstrating their ability to build capacity to meet their own future needs.

EMSTAC staff collected data regarding the number of contacts that staff had with TA requesters. Evaluation data, collected from a core sample of 32 districts, indicated that the direct support that EMSTAC was requested to provide to districts steadily decreased over the course of time. During the initial stages of our relationships with school districts, EMSTAC found that it was necessary to have contact with school districts between two and three times per month. Our staff addressed questions and informational needs of district representatives via face-to-face contacts, telephone, and e-mail contacts, depending on the strategy. However, during the later phases of our relationships, the number of contacts with EMSTAC staff diminished to less than one per month as local capacity, confidence, and momentum were established.

### ***Voices of Experience***

*In the beginning, there was a lot of support. EMSTAC was only a phone call away. Over time, my needs for support were less. I know more now and it is a lot easier.*

EMSTAC Linking Agent

We also found that the nature of the contacts between EMSTAC and district staff changed. In general, most contacts (56%) involved discussions regarding the work that was occurring within a district. This included district personnel providing updates to EMSTAC, and EMSTAC staff

encouraging local educators to continue their efforts. Approximately 20% of the contacts between EMSTAC and district personnel were requests for resources and information.

Our finding that a technical assistance center can produce local problem-solving capacity is particularly heartening. Given the number of school districts that may request its assistance, a national center necessarily must build local capacity, such that local school districts require fewer and fewer contacts over time. Fortunately, we found that, despite fewer Center contacts with districts, districts continued to move in a positive direction in adopting and implementing research-based practices. Based on interview information, we attribute this finding to the change process and linking training that we provided to the Linking Agent(s) in each school district.

### **Scaling up is an Interpersonal Process**

Scaling up is largely dependent on a national center’s ability to develop interpersonal networks with other groups who work closely with school districts.

EMSTAC established positive working relationships with a number of State and local TA service providers. Additionally, strategic partnerships were forged with parenting groups, professional associations, and others who support local schools. Through this work, EMSTAC was able to identify the multiple layers of established technical assistance arrangements and build a network of coordinated service delivery.

Most importantly, EMSTAC found that the process of working with strategic partners and the use of other professional contacts are critical to scaling up technical assistance efforts. In our work we deliberately established relationships with organizations such as the Mountain Plains

#### ***Voices of Experience***

*My school district chose to work with EMSTAC because I saw presentations made by EMSTAC staff at a number of conferences (particularly CEC)... I felt that EMSTAC could provide some assistance in addressing the behavioral needs of my students.*

EMSTAC Linking Agent

Regional Resource Center (MPRRC) and the Council of Chief State School Officers (CCSSO). In

fact, the use of strategic partners and professional referrals accounted for 77 percent of the 47 districts with which EMSTAC maintained a strategic partnership after Linking Agent training was completed. We found that strategic partners, such as RRC personnel and other “mutual contacts” that resulted in professional referrals, played a critical role in establishing trust and credibility for our Center’s TA efforts.

By contrast, a significant and fairly definitive finding was that “cold contact” recruitment strategies were not successful. EMSTAC recruited very few districts (districts that did not avail themselves of EMSTAC services) when the district had no prior knowledge of EMSTAC and when the initial contact was impersonal (i.e., phone call, letter, website). For instance, although over two thousand letters were sent to local school districts in a multi-state region of the country for the explicit purpose of offering our services, we were able to attribute successful recruitment of only a few districts in that region due solely to this recruitment method. Later success in recruiting districts in the region was increased when we partnered with a regional TA center and a professional organization, both of which had many professional contacts in the region.

### **Effective Scaling up of Technical Assistance will Utilize Technology**

Technical assistance that is provided primarily via “distance” mechanisms is likely to play an important role in a national center’s capacity to scale up.

EMSTAC demonstrated the potential for scaling up technical assistance by using long distance training and support mechanisms. For example, although EMSTAC was only able to feasibly support a small number of school districts using more intense (face-to-face) assistance strategies,

#### ***Voices of Experience***

*This was the first on-line training I’ve participated in. I like the convenience of being able to do it at 5:00a.m. — my favorite work time.*

EMSTAC Linking Agent

including the allocation of fiscal resources and site visits, we were able to provide support services to a far larger number of districts using a web-based “distance” approach to TA. A total of 25 districts received this long distance training and support within a one-year period (before the project ended).

If distance-based technical assistance approaches are to be effective, then a structured on-line format for training and TA will need to demonstrate that trainees are acquiring important sets of knowledge that will assist them in their work. In our evaluation, following the completion of a web-based training regarding the change and linking process, EMSTAC trainees were asked to complete an on-line evaluation form. One of the most important questions related to the school district trainee’s impressions of the knowledge that they acquired as a result of engaging in the training. Fifty-three percent (53%) of those individuals who completed training on-line reported that the training had a “significant” impact on their knowledge of research-based information and how this information can be accessed. This number compares to 59 percent of trained district representatives who received a face-to-face training. In general, these two percentages are comparable and suggest that the on-line training is feasible and effective, and made an important contribution to the knowledge base of those completing training.

When coupled with individualized support (not necessarily face-to-face), this distance-based approach appears to have promise in increasing educators’ knowledge of empirically validated practices. We coupled the on-line training with TA activities such as electronic bulletin boards, chat-events, and computer-based videoconferencing. As the EMSTAC network expanded, so did the number of EMSTAC participants who used these distance education service

***Voices of Experience***

*EMSTAC has been phenomenal in the way I was trained. I got on-line, worked through it any time, and got my training. I could always go back and get more clarity on the on-line chats.*

EMSTAC Linking Agent

***Voices of Experience***

*I believe the strengths of this training were the format and self-regulatory aspect. I found that once I started it was difficult for me to stop. I was able to complete the entire training in about two and a half days! I have a husband, two young children, am active in my association on the state level and am in graduate school...I am impressed!*

EMSTAC Linking Agent

methods. We learned that it was important to complement these electronic methods with hard copy materials and instructional tools to reduce the anxiety that can be associated with using distance education technologies.

## **Less Costly Forms of Technical Assistance Appear Effective**

Less expensive forms of technical assistance and school change appear to be just as strong as more costly forms of technical assistance and school change.

One of the most interesting and potentially important findings from our evaluation was that school districts from Strategy I (most expensive) and Strategy II and III (far less expensive) engaged in school change activities at relatively equal rates over an extended period. For example, although each of the seven Strategy I districts received approximately \$60,000 annually as a stipend to support the salary of a trained EMSTAC Linking Agent (plus funds for paying consultants), our evaluation found that these districts progressed no farther or faster in their change activities, over a comparable period, than the nine Strategy II or 16 Strategy III districts, which did not receive this financial support.

In interpreting these findings, it is important to recognize that the Strategy II and III school districts were “self selected.” That is, they chose to work with EMSTAC fully aware that monetary support would not be provided. Thus, these districts may have had other motivations (or resources) that contributed to their participation and progress in implementing change. It should also be noted, however, that the school districts that participated with EMSTAC did not differ across the three Strategies in size of district enrollment, student eligibility for free or reduced price lunch, percent minority students, or percent special education students.

### ***Voices of Experience***

*I have benefited from the video conferencing. It is great to get expert information on a focused topic without using time and money to go to conferences or trainings.*

EMSTAC Linking Agent

From a quantitative perspective, our results clearly indicate that districts receiving direct funding from a national technical assistance center do not necessarily progress further or more quickly through the change process than districts that did not. However, it is also important to recognize the subjective impressions of the educational personnel that we interviewed regarding resources. A number of Linking Agents (mostly in Strategy I districts) indicated that financial resources were important in order to bring research to practice. Other Linking Agents reported that they were receiving support for their initiatives from other sources. Still others indicated that the financial assistance they received from EMSTAC was a key ingredient in their progress.

In summary, one of the most important findings from our evaluation was that school districts across the three strategies engaged in school change activities at relatively equal rates, although Strategy III districts entered the project at a later time and are therefore not as far along in the change cycle. However, their progress over a one-year period did not differ significantly from Strategy I districts or Strategy II districts over a comparable one-year period.

### **Technical Assistance Costs are Largely Driven by Technical Assistance Users**

The cost of delivering technical assistance is largely dependent on the recipient of the technical assistance and less dependent on the technical assistance strategy itself.

As part of the EMSTAC evaluation, some of the school districts received monetary support to sustain their work with EMSTAC (Strategy I districts).

This stipend was used to pay the salary of the district Linking Agent and for expenses to bring in outside consultants (and to pay for other aspects of professional development events, e.g., training materials). Clearly, then, as was planned, Strategy I was the most expensive technical assistance approach.

#### ***Voices of Experience***

*Well, the financial support has been very important, but now I can find a lot on my own. It's been a learning process, and the TA Liaison certainly walked me through the process. His support was really important in the beginning.*

EMSTAC Linking Agent

Understanding that the technical assistance costs for Strategy I (stipend) were far more expensive than Strategy II (honorarium) or Strategy III (no stipend or honorarium), we conducted a cost analyses that controlled for the Linking Agent stipends that were paid to Strategy I districts.

A cost analyses of these data indicated that the cost of TA support *within* a particular strategy was just as variable as the cost of TA support *between* strategies. Generally, when the cost of paying the Linking Agent stipend was controlled for, the expense of each strategy was relatively equal. However, with Strategy II districts in particular, the cost of TA support varied significantly. These findings indicated that the cost of technical assistance was less dependent on the technical assistance strategy and more dependent on the level of need of a particular district and the degree to which they used EMSTAC resources.

Some districts, for example, used EMSTAC resources extensively in identifying and selecting interventions related to improving outcomes for students with disabilities. Others made only limited use of EMSTAC for these purposes, perhaps because they were not yet ready to select an intervention, they already had one in place and thus did not need EMSTAC's help, or they relied on their own resources. This finding supports two important conclusions: (1) within-strategy variation is in many cases greater than variation between strategies with respect to TA support costs and (2) it is the level of activity and energy displayed by the Linking Agent (as well as other district characteristics), rather than the strategy itself, that accounts for most of the difference in costs related to TA support.

## **Local Motivation and Capacity are Essential Elements in School Change and Improvement**

We learned a great deal about TA delivery methods and strategies that can help TA providers better deliver their services. Much of what we learned is based on both qualitative and quantitative data that assessed varying methods of TA delivery.

The TA services given by EMSTAC increased the importance that professionals working in local education agencies placed on research-based practices. By the end of the first year of working with EMSTAC, districts reported an increased interest in and respect for research-based practices.

By training local staff in a process to promote school improvement, EMSTAC built district capacity to improve their practices. What are the critical ingredients for change and improvement to occur? Although we identified many potential variables that might have predicted school district progress through the change process, only a few of those variables reliably (within and cross years) predicted such progress. Most notably, the variables that were positively correlated with change included district and building leadership, collaboration between the Linking Agent and key district staff, Linking Agent support from the Center, and district history of improvement activities. These findings are consistent with previous research indicating that school change activities are most likely to occur when inside and outside (the district) support are available, and local motivation and capacity are present.

***Voices of Experience***

*EMSTAC is important to getting innovations into schools. You need to have an instructional leader who supports you and a person in a linking agent type of role to keep things going.*

EMSTAC Linking Agent

Increased local district capacity, in turn, led to increased learning, active participation in general education, and high achievement among elementary and middle school students with disabilities. These student outcome findings are discussed below.

**Technical Assistance Can Support the Sustained Implementation of Research-based Practices that Improve Student Outcomes**

The ultimate test of TA delivery is the impact that the TA has on student outcome data. Therefore, in addition to our work to evaluate the TA delivery process, we also collected outcome data from local district participants. We believed that these data related to the impact of various research-based interventions, would help us draw some conclusions regarding the ultimate impact of

our work. Based on these data, we are able to offer the following findings regarding the impact of our work at the local level.

EMSTAC helped districts identify and use practices validated through IDEA research. School districts requested EMSTAC technical assistance about research-based practices involving (a) behavior/school-wide discipline, (b) reading/academic instruction, (c) inclusion/access to the general

education curriculum, and (d) disproportionate representation of minority students in special education. The examples of student outcome data below were collected by school districts and shared with EMSTAC:

- **Behavior/School-wide Discipline.** EMSTAC helped school districts implement research-based practices (e.g., Project ACHIEVE) to increase students' learning and improve their behavior. Child outcome data indicated significant decreases in the number of conduct violations and increases in the percent of time students with disabilities spent learning in general education classrooms.
- **Reading/Academic Instruction.** School districts implemented, with EMSTAC support, research-based practices (e.g., Direct Instruction) to improve academic achievement. Participating students with disabilities demonstrated increased phonemic awareness skills, improved reading comprehension, and increased scores on state assessments.
- **Inclusion.** School districts used EMSTAC support to implement research-based practices for inclusive education (e.g., Emory Autism Program). These practices resulted in significant increases in learning and active participation in general education among students with severe disabilities.
- **Disproportionality.** EMSTAC helped school districts use research-based practices (e.g., peer tutoring) with minority students at risk for referral to special education. Child outcome data indicated reductions in special education referrals, improved reading fluency rates, and improved performance on state assessments among African American and Hispanic students.

The overall findings about student outcome are supported with quantitative data from each of 14 districts. Local school personnel collected these data, with the assistance of EMSTAC staff as necessary. Appendix C contains a summary of these data for the 14 districts.

#### *Voices of Experience*

*Through our involvement with EMSTAC, we were able to identify and implement research-based practices, such as the Strategic Instruction Model from the University of Kansas. As a result of these interventions, we have seen improvements in students' scores on our State achievement test.*

EMSTAC Linking Agent

## REFLECTIONS ON THE CHALLENGES OF TA DELIVERY

The goal of providing a practical, user-friendly, and effective source of technical assistance on a national scale is a significant undertaking. Over the past five years EMSTAC learned how to overcome many of the barriers and challenges to implementing a national technical assistance approach. While not insurmountable hurdles, the challenges reviewed below represent important issues that were considered and addressed as part of the process of meeting the needs of local schools and their students with disabilities.

The first issue focuses on the fundamental ingredients involved in moving research to practice— **motivation and capacity**. These two important conditions are difficult to foster in places where they do not already exist, but they are essential to accomplishing the goals of a national TA center. The second issue addresses the complexity of working with increasingly large numbers of TA recipients while simultaneously providing services responsive to the unique needs of each entity, a topic we identify as **breadth versus depth**. The third issue concerns the struggle that many educators face in wearing multiple hats of responsibility with numerous time constraints. Finding and **selecting the right person (or team)**, who has the commitment and capacity to carry out change and improvement activities is crucial to the success of our TA approach.

### **Motivation and Capacity**

In order for educators to effectively implement research-based practices, and make progress in change, they must have the motivation and capacity to do so. The same conditions are necessary for the professionals charged with implementing these changes. As evidenced in our experience and evaluation findings, these are fundamental qualities cutting across all aspects of TA.

We can think of motivation as the will to accomplish something. There are strong links between environmental contexts and motivational conditions. A school cannot “grab hold” of a person’s thoughts and feelings and manipulate them as if they were molding a piece of clay, but it can try to influence motivational processes through environmental levers. Motivation cannot be imposed, as people cannot be forced to genuinely care about something or feel a particular emotion. Yet care and motivation can be facilitated or constrained. It is possible to alter the *probability* that a person will adopt or learn a particular practice. Indeed, it is unusual when a pattern of behavior persists in the face of compelling contextual incentives, pressures, and supports designed to constrain or facilitate change in that pattern. Motivational processes serve as prime targets for TA centers and districts seeking to foster commitment to change.

***Voices of Experience***

*EMSTAC provided training and guidance in implementing the Direct Instruction reading program. As a result, we achieved a 100% buy-in from the staff. Without staff support, any program is doomed to fail.*

EMSTAC Linking Agent

Based on our evaluation findings we concluded that motivation to move research to practice among and participants was achieved when the following factors were present:

- Awareness among professionals of the change initiative and research-based practices associated with the initiative.
- Perceived legitimacy of the initiative and research-based practices among professionals.
- Perception among educators that they have the necessary knowledge and skills to successfully implement the initiative and research-based practices, and that their school and district environment will support them in the effort.
- Perception among educators of a sense of ownership and empowerment with regard to the goals of the change initiative and associated research based practices.

Even when education professionals come to adopt all initiatives as their own, and develop sufficient awareness and appreciation of research-based practices designed to help them implement the initiative, a number of issues of capacity still need to be addressed or these efforts will fall short of their goals.

Capacity is usually defined as the ability to do something, and capacity at the school level is ultimately measured in terms of a school's capacity to add value to desirable student outcomes (however student outcomes are defined). We can build on these ideas to envision capacity as consisting of three components that can be applied to both schools and classrooms: human capital, physical capital, and community networking and social capital. Though each of these variables is important, they are likely not of equal weight, and their relative importance will vary with the context and mix of factors present at each school site. These same components can be applied on a larger scale to a state's TA system.

### *Voices of Experience*

*One of the greatest rewards in working with EMSTAC and Project Achieve is that I have witnessed a sense of whole school involvement from the administration to the student body.*

EMSTAC Linking Agent

## **Human Capital**

Human capital refers to the intellectual ability, knowledge and skills of individuals working in education settings. Some variables, such as content knowledge, have immediate and direct effects on the quality of instruction. Students represent another important element of human capital. Student knowledge and characteristics directly impact how resources and activities are arranged to enhance learning.

## **Physical Capital**

Physical capital relates to a wide range of resources potentially available to educational providers. Financial capital provides the source of fiscal assets upon which agencies can draw to support their ongoing activities. These assets are available for purchasing other forms of capital. Physical resources also include buildings, technology, instructional materials and supplies, instructional time, class size, and school size, which may have indirect and long-term effects on student learning.

## Community Networking, Social Capital, and Trust

Educational organizations are comprised of a rich diversity of individuals and groups. In order to achieve a high level of productive cohesion, individuals within the setting must be linked in a strong network of trust. Further, individuals must be oriented to the common good of the group as a whole. Support for the common good is promoted by an education community characterized by positive interpersonal relations and effective collaboration.

### Breadth versus Depth

Each of the EMSTAC TA delivery strategies presented its own set of barriers and challenges. A significant advantage of using the face-to-face approaches developed for Strategies I and II was the ability to establish a personalized working relationship with participants. A personalized approach was effective in guiding participants beyond the initial training stages of the EMSTAC partnership. The inherent disadvantage, however, of such a labor-intensive approach was in the limited number of districts it was possible to provide with on-going technical assistance. In order for EMSTAC to move significantly beyond this number of district partners, the web-based training and support resources used during the last two years of the project in Strategy III became necessary.

As EMSTAC began implementing Strategy III, the challenge of breadth became less of a factor. The potential for far greater numbers of school districts to partner with EMSTAC under this strategy was significant. Despite this potential, as this strategy evolved, it became more challenging to provide quality resources, support materials, and on-going communication with school districts and continue to be responsive to their specific needs and circumstances.

#### *Voices of Experience*

*The connection that EMSTAC provides between theory and practice is very good and very solid. I've taken things to people in other districts because of our collaboration with EMSTAC. We are now the model in the state for looking at disproportionality.*

EMSTAC Linking Agent

## Selecting Effective Partners

Determining the most appropriate school district professional (or team) to take on the responsibilities of being the EMSTAC contact person was a learning process. Many of the district and local school leaders who appeared, initially, to be most appropriate for this role have turned out to be less involved in the TA process than expected. For example, many local directors of special education and school principals, upon receiving EMSTAC information, indicated a high personal interest in being trained and working as the EMSTAC contact; however, because of their leadership responsibilities they often found little time to actively participate in TA activities. The better role for administrators seems to be one of leadership, where they can designate a staff member to be the connection to a TA provider and provide ongoing support for this professional and his/her role within the district. Furthermore, designating a team of school district personnel to work with a national TA provider is often desirable. This team can help sustain momentum and more effectively solve complex TA problems than a single individual. We recommended to administrators that staff development specialists, curriculum specialists, special education coordinators, and other professionals with some non-classroom, non-instructional time could effectively fulfill the Linking Agent role.

Helping administrators find ways to effectively manage their time in order to incorporate school improvement efforts into their array of responsibilities was an important challenge as EMSTAC strived to meet the needs of local school districts. This challenge seemed especially pertinent as EMSTAC increased the number of districts engaged in its distance education TA methods. In short, administrative leadership and guidance was especially critical in districts where EMSTAC support was provided at a distance.

Several findings have emerged from our work with multiple partners. In general, the most successful approach to the partnering process included both an open-system attitude (in which a large

number of potential partners are recognized as potential collaborators for an expanded technical assistance effort) and a flexible system (in which potential partners can be included or bypassed as appropriate to the goal of effective, efficient delivery of technical assistance to schools). Our experience suggests that while many local, State, and national-level agencies and organizations wanted to partner with EMSTAC to facilitate the delivery of technical assistance at the local level, at least as many have struggled with incorporating EMSTAC resources into their sphere of activities and influence. The primary lesson learned from EMSTAC efforts to partner with State officials, State technical assistance entities, national organizations, and local school systems is that technical assistance is best delivered to schools through a variety of entry points, largely dependent on the specific needs, priorities, and work climate of the local and State education agencies.

## IMPLICATIONS

Our experience in delivering TA to local school districts produced a great deal of information that we have tried to distill for this report. We believe that our findings and “lessons learned” have several implications for TA entities that are now or are contemplating working with local school systems. We offer the following recommendations for consideration.

- In each school district targeted for assistance, the TA center should identify a district level professional (or team) who has time to devote to change and improvement activities and will be the primary contact for the TA center. We believe having an “insider” who knows the history and key players in the district is crucial. The insider can then collaborate with a Center staff member (outsider) to develop and implement the needed TA in the district.
- To build a school district’s capacity to solve problems, a TA provider should consider training a district level professional (or team) in a change process that can be used over and over to solve local problems. At a minimum the process should include how to conduct a needs assessment, how to form consensus about the importance of the problem and overcome resistance to change, how to locate and evaluate research-based solutions, how to install and pilot test the chosen solution, how to extend the solution to other classrooms and schools, and how and when to repeat the change process.

- To increase the likelihood of success, the TA provider should ensure that there is school district and building level support for the change activity, and that there is, as well, a flexible and responsive support mechanism provided through the center (outside support) to the change agent or team. Further, the TA provider is more likely to be successful if the school district has a history of carrying out change and improvement activities. We recommend that a school district’s readiness to receive help be assessed before a change effort is launched.
- To maximize the accessibility and use of its resources, the TA provider should consider making all of its resources (people, information) available in a variety of ways, including through the internet and other electronic and distance learning methods.
- To ensure that evidence of effectiveness is obtained, the TA provider should consider training district professionals so that they themselves can collect and examine evaluation data. Doing so will further develop the district’s capacity to solve its own problems, and to learn from and showcase the results of its efforts. Student outcome data should, of course, be part of the data that are collected.
- The TA provider should consider partnering with other entities in recruiting, training, and/or supporting a particular school district. There are many TA providers to which a school district can turn, and each has its own expertise, array of resources, and following. As individual TA providers, we should take advantage of our unique skills and resources but collaborate with other providers as necessary to meet school district needs and preferences.
- As implied above, the TA provider should include among its goals in working with each school district: (1) building district capacity to solve its own problems, (2) increasing school district use of scientifically based practices, and (3) instilling a climate of continuous improvement among district staff.

In conclusion, this report is a brief summary and “look back” at the experiences of a federally supported project and our work to deliver and evaluate technical assistance to local school districts at the national level. The learning that this report offers represents hopefully offers a “look ahead” for our colleagues (other TA Providers) in their effort to maximize the effectiveness of TA delivery. We recognize that this brief report is based on the insight and learning gained through one five-year project, and is not intended to capture all of the important variables that affect TA delivery. We sincerely hope, however, that our learning will contribute to the dialogue about how to improve assistance to local school districts.

## REFERENCES

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- Havelock, R., & Hamilton, J. (book accepted for publication). *Guiding change in special education*. Washington, DC: the American Institutes for Research.
- Mesmer, E., Hamilton, J., & McInerney, M. (1998). *The Elementary and Middle Schools Technical Assistance Center: Program evaluation proposal*. Washington DC: American Institutes for Research.

## APPENDIX A

### EMSTAC SCHOOL DISTRICT SAMPLES

Over the course of the five-year project period, we worked with several samples of school districts, which differed in the nature of their relationship with EMSTAC and the duration of the relationship. In an effort to represent the samples of districts that partnered with EMSTAC, we present below several tables, showing the exact or approximate number of districts on several dimensions.

**TABLE I**  
**NUMBER OF SCHOOL DISTRICTS BY NATURE OF PARTNERSHIP**

<b>Nature of Partnership</b>	<b>Number of School Districts</b>	<b>Activity</b>
<u>Awareness</u> of EMSTAC	3000+	Received information about EMSTAC through mailings, conferences, website
<u>Interest</u> in working with EMSTAC	163	Requested information about EMSTAC, including EMSTAC Follow-up Packet
<u>Try</u> partnership with EMSTAC	64	Started Linking Agent Training
<u>Continue</u> partnership with EMSTAC	47	Completed Linking Agent Training

**TABLE II**  
**NUMBER OF SCHOOL DISTRICTS BY LESSON LEARNED**

<b>Lesson Learned</b>	<b>Number of School Districts</b>
A national TA center can effectively help school districts build an ongoing capacity to solve problems.	32
Scaling up TA is an interpersonal process.	3000+
Effective scaling up of TA will use technology.	163
Less costly forms of TA can be effective.	32
TA users largely drive TA costs.	47
Local motivation and capacity are essential elements in school change and improvement.	32
TA can support the sustained implementation of research-based practices that improve student outcomes.	14

**TABLE III**  
**NUMBER OF SCHOOL DISTRICTS BY STRATEGY**  
**AND YEARS OF PARTICIPATION**

<b>Strategy and Years of Participation</b>	<b>Number of School Districts</b>
Strategy I Districts (fall 1998 to spring 2002 – four school years)	7
Strategy II Districts (fall 1999 to spring 2002 – two to three years)	9 (15 trained)*
Strategy III Districts (fall 2000 to spring 2002 – one to two years)	16 (25 trained)*

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\*To be included in the change process analyses, the school district must have been working on a change initiative for at least six months following Linking Agent training.

## APPENDIX B

### EMSTAC INSTRUMENTS

- ***Linking Agent Interview.*** The Linking Agent Interview was designed to gather in-depth information about Linking Agent roles and responsibilities. One of three forms of the Linking Agent interview was used depending on how long the district had been working with EMSTAC. Additionally, questions were asked about TA-related activities and programs, and effectiveness in achieving program goals. A number of other issues were addressed, including challenges and barriers faced, the extent to which teachers implemented program components, school and district contextual information, and feedback on EMSTAC's level of support to the Linking Agent.
- ***“Other” Interview.*** Whenever possible, EMSTAC site visitors met with other school or community members to learn more about district programs and level of implementation. Persons interviewed included building and district administrators, school counselors, behavioral interventionists, reading specialists, and district specialists. The “Other” Interview was designed to gather general information about their understanding and involvement with the program, and their level of satisfaction. This interview was also designed to capture important contextual information about each district and school.
- ***TA Liaison Survey.*** EMSTAC surveyed each of the TA Liaisons on the EMSTAC staff. During the interview the TA Liaisons were asked to describe the districts they were responsible for and the extent of their communication with the districts, as well as their perception of how well EMSTAC served each district's TA needs.
- ***Teacher Surveys.*** A representative sample of teachers were surveyed on issues related to program implementation and selected predictor variables related to their perceptions of the program designed to meet school needs, their input in choosing a program; the level of training and support from the Linking Agent; concerns; and outcomes.
- ***Document Collection.*** Several documents were reviewed from each district or from internal EMSTAC records to gather information on contextual variables, extent of communication between EMSTAC and districts, and the nature of that communication. These documents include: *School District Information Forms, Organizational Assessments, TA Communication Logs, and Linking Agent Journals.* The EMSTAC evaluation team collaborated with TA Liaisons to ensure their communication with districts was reflected in these documents.
- ***Usage Data.*** A number of data sources were used by EMSTAC staff to track the frequency and type of products that were used by the Linking Agents. Through the use of an internally developed database and evaluation software, data were collected on the web-based training, and participation on the Linking Agent listserv, chat sessions, and bulletin boards.

- ***Linking Agent Implementation Scale*** includes items that reflect activities that Linking Agents are likely to engage in if they are involved in facilitating change within their district. Examples of these items include, conducts a needs assessment, evaluates potential intervention programs, assists teachers in implementation, etc... Based on the level with which Linking Agents were involved in these activities they received either a score that reflects high, medium or low implementation for each item. Each item was then summed for a total score.
- ***Havelock Stage of Change Scale*** measures the change process more globally. Each year, districts working with EMSTAC were classified as being at a specific stage of change according to our Change Cycle model (see Section Two for description). The cycle has seven stages: Care, Relate, Examine, Acquire, Try, Extend, and Renew. These stages approximately indicate where a district may be within the process of change. We assigned each district a score from 1 to 7, corresponding to each level in Havelock's Change Cycle (Care = 1, Relate = 2, Examine = 3, Acquire = 4, Try = 5, Extend = 6, and Renew = 7).

## APPENDIX C

### STUDENT OUTCOME DATA

Examples of student outcome data, obtained from a sample of 14 EMSTAC school districts, are discussed below. We organized these data by district within four categories: (a) behavior/school-wide discipline, (b) reading and other areas of academic instruction, (c) inclusion/access to the general education curriculum, and (d) disproportionate representation of minority students in special education programs. These categories reflect the four main topical areas for technical assistance that were requested by EMSTAC's school district partners. The districts that provided these data are demographically diverse and range from small to large and urban to rural districts. The names of the districts were removed to maintain the confidentiality of our district partners.

#### **Behavior/ School-wide Discipline**

Student outcome data on behavior and school-wide discipline from two school districts is detailed below.

##### **District 1**

EMSTAC's work with the District 1 Public Schools resulted in the implementation of Project ACHIEVE, a school-wide model that includes a specific focus on addressing discipline concerns. Implementation of Project ACHIEVE began at a large middle school in a large district in spring of 1999. Although minimal impact was seen in office referrals during the first year of implementation, by the 2000-2001 school year a dramatic decrease in all types of code of conduct violations was documented. For example, Class 1 offenses (classroom disruption, insubordination, verbal abuse) dropped from 1,914 referrals to 931. Class 2 offenses, which include fighting, vandalism, and stealing, dropped 42% from 394 referrals to 227 referrals. Finally, the most serious form of violations including battery, possession of a weapon and arson, dropped from 18 incidents in 1999-2000, to eight incidents the following year.

## District 2

In the District 2 Public Schools, district personnel established an alternative program to serve students who exhibited violent or severely inappropriate behaviors and could not remain in a general classroom or who had been previously expelled due to behavior infractions. The aim of the program was to ensure academic instruction by also focusing on research-based practices such as positive reinforcement and social skills training in general education to promote reintegration. Additionally, families attended parenting classes. Students remained in the alternative program for a minimum of two months. Seven of the eight participating students have been fully integrated into their first and second grade classrooms. (The eighth student was placed in a psychiatric program in a local hospital.) Results from a survey of 30 teachers indicated that 90% were satisfied with the program and wanted to see it continued.

## Reading/Academic Instruction

The following are summaries of reading and academic instruction data from five school districts.

## District 3

The District 3 Public Schools implemented a number of research-based strategies from the Early Literacy Program (ELP) in order to improve the language and writing skills of students with disabilities in the primary grades. ELP is a research-based literacy program developed at Michigan State University. The data reported here represent Mean Percentiles for one cohort of students on the Comprehensive Test of Basic Skills (CTBS). The data reported indicate student performance on the CTBS both before (1998) and after (2000) implementation of ELP. As indicated in the scores below, the performance of this cohort of students increased significantly.

<i>Mean Percentiles</i>	<b>1998</b>	<b>2000</b>
Language	43.0	59.5
Language Mechanics	43.0	54.0
Language Composite	47.0	57.0

## District 4

In the 1999-2001 school years, a middle school in District 4 began implementing a school-wide, research-based literacy program that included literacy coaches at each of the schools, remedial reading classes, and an emphasis on reading and writing throughout the curriculum. New instructional materials were acquired to enable staff to more easily implement this literacy initiative. Additionally, during book club meetings staff taught targeted students research-based strategies to improve their reading comprehension. Last, the school utilized students' standardized testing results to drive future instructional practices. After three years of implementation, the percentage of students who met state proficiency standards has increased, based on the State Assessment Program, in 1)

reading from 70% in 1999 to 75% in 2001 and 2) math from 50% in 2000 to 66% in 2001 (math proficiency test was not implemented until 2000). Meanwhile, the percentage of students proficient in writing has remained relatively stable (48% in 1999, 47% in 2001).

## **District 5**

Elementary schools in the District 5 Public School District initiated the implementation of Direct Instruction and other research-based strategies to teach phonemic awareness skills to students with disabilities in kindergarten and first grade. Data collected during the initial year of the project documented the impact of these strategies on students' early reading skills. For example, in one school building, letter-naming fluency increased from 32 letters per minute to 54 letters per minute during the first six months of program implementation for first grade students. This increase represented a 68% improvement in letter naming fluency. Further, during this same time frame, student ability to correctly segment words into syllable parts increased 76%.

## **District 6**

At one elementary school in District 6, Peer Assisted Learning Strategies (PALS) was implemented to increase active engagement and learning, reading fluency, and reading comprehension among students with disabilities. Curriculum Based Measurement (CBM) was used to track student progress school-wide. Results from the CBM probes documented student growth in the number of words read correctly per minute (WCPM), between the fall and following spring during the initial year in which PALS was implemented. While gains were documented at all levels, second grade classrooms, which increased their WCPM scores between 40% and 97%, demonstrated the highest percent increase.

## **District 7**

In one school in District 7, EMSTAC assisted in initiating implementation of a phonemic awareness program for children with disabilities in kindergarten and first grade. Using the Dynamic Indicators of Basic Early Literacy Skills (DIBELS), one school has been able to document growth in the acquisition of early reading skills by each new kindergarten cohort that is exposed to instruction in phonemic awareness. As a result of three years of exposing incoming kindergarten students to the program, the percentage of kindergarten students demonstrating sustained skills in phonemic segmentation fluency has increased from 21% to 39%.

## **Inclusion/Accessing the General Education Curriculum**

The following are summaries of student outcome data on inclusion and gaining access to the general curriculum from three school districts.

## **District 8**

District 8 County Schools has implemented an Inclusion Initiative based on research-based methods adapted from the *Emory Autism Program* and *Project Winning Team*. District 8 maintained a continuum of special education services while continually reevaluating students to ensure that they

were in the least restrictive environment with maximum exposure to the general education curriculum. In 16 of the 21 schools, the Inclusion Initiative has been implemented and will be in the remaining five schools during the 2001-2002 academic year. Success of the program has been measured by the academic gains made by students in special education. For instance, 92% of students with disabilities enrolled in general education classes passed the math and reading sections on a state achievement test. Additionally, teachers have been able to identify and cultivate strengths of students in special education; evidence of this finding is the fact that 30 special education students have been referred and determined to be eligible for gifted services.

### **District 9**

The District 9 County Public Schools recognized the need to provide students with severe disabilities increased participation in meaningful inclusion experiences. As a result, the district targeted one school to implement a collaborative model in which parents, special education teachers, general education teachers, and trained paraprofessionals worked together to include targeted students in general education classrooms. Prior to the 1998 school year, no students with severe disabilities were included in general education in the targeted elementary school. During the first year of working with EMSTAC, one student with Down's Syndrome was included and successfully supported. Since then the number of students with severe disabilities receiving services within the general education environment has increased to nine. Reports from the school indicate that these students have made significant progress in attaining their IEP goals.

### **District 10**

To increase the number of students with disabilities being educated in general education classrooms, District 10 Public Schools adopted a co-teaching model in which a general education teacher and a special education teacher collaborated to teach a diverse group of learners in one classroom. General education teachers were provided in-service workshops to learn about inclusion and the process of collaboratively adapting and modifying curriculum for students with special needs. To support the inclusion model, the district provided additional staff in inclusive classrooms and provided teachers in these classrooms with information on validated, research-based strategies for effectively instructing students with disabilities in general education. After three years of implementing these programs, the percentage of students with disabilities being educated in general education classrooms increased from 26% to 40%. Survey results of general education teachers in the district show that about one-third of the teachers reported a positive experience with inclusion-based practices, while two-thirds report some positive experiences and some negative experiences. None of the teachers participating in the survey indicated only negative experiences working with the co-teaching model to support inclusion of students with disabilities.

### **Disproportionate Representation**

Data from four school districts, summarizing student outcomes regarding disproportional representation of minority populations, can be found below.

## **District 11**

To address the overrepresentation of minority students in special education, the District 11 Public School District in collaboration with EMSTAC developed a preventive approach for reducing referrals for special education placement. The district's approach consisted of a comprehensive program that included curriculum based assessment (CBA) to conduct formative assessment and monitored students' progress in the acquisition of basic reading and literacy skills for students in danger of failing in reading. CBA data revealed an improvement in reading fluency rates for both passages and words in isolation. For example, there was an average increase of 11.1 words for the number of words read correctly in a passage and an average increase of 11.8 words for the number of words read correctly from a list of high frequency, sight vocabulary words.

## **District 12**

The District 12 County School District implemented instructional support teams (ISTs) in 17 schools for students in general education classes who were at-risk for referral for evaluation and possible placement in special education. The IST model promoted the success of students by meeting their needs (educational, behavioral, and social) in the general education classroom. After implementing the program from 1998-2001, the number of students receiving special education services represented less than one percent of the total enrollment in the 17 IST schools over the three-year period. Further, seven schools have improved their composite index scores on a district wide assessment for grades 3 and 5, respectively, since the inception of the IST program.

## **District 13**

The District 13 School District implemented a comprehensive program that included research-based academic and behavioral interventions for minority students at risk for special education placement. The program components were designed to improve students' documented behavior and reading problems. Data from the district-wide assessment revealed an improvement for the percentages of African American and Hispanic students, in third grade, scoring at or above grade level. For example, across two school years (from the 1999-2000 to the 2000-2001 school years), the percentages of African American students who met or exceeded grade level expectations in reading increased from 72.3% to 75.1%. In addition, the percentages of Hispanic students who met or exceeded grade level expectations in reading increased from 77.3% to 79.7%.

## **District 14**

The District 14 School District implemented a comprehensive research-based program for minority students at risk for special education placement. The program included mentoring, a Saturday tutorial program, technology integration and a reading comprehension program. The program components were designed to address students' documented behavior and reading problems. Data from the Texas Assessment of Academic Skills (TAAS) revealed an increase from 125 students passing in the spring of 2000 to 141 students passing in the spring of 2001.

## APPENDIX D

### EMSTAC PRESENTATIONS AND PRODUCTS

#### Chat Events

- Artiles, A. (Facilitator). *Culturally responsive instruction*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, November, 2001.
- Ball, W. (Facilitator). *Conducting a needs assessment at the local level*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, May, 2001.
- Beverly, C. (Facilitator). *University partnerships: Benefits and process*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, October, 2001.
- Dimino, J. (Facilitator). *Literacy interventions for elementary and middle schools*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, May, 2001.
- Ford, B. (Facilitator). *The Importance of Home-School-Community Partnerships in Minority Communities*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, February, 2002.
- Gersten, R. (Facilitator). *Instructional strategies for English language learners*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, September, 2000.
- Gillins, S. (Facilitator). *Spring forward: First steps as a new Linking Agent*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, March, 2001.
- Holodak, N. (Facilitator). *Integrating Mathematic Concepts into Your Elementary and Middle School Curriculum*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, April, 2002.
- Llewellyn, V., & Thomas, D. (Facilitators). *Life as an EMSTAC Linking Agent*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, January, 2001.
- Mason, A. (Facilitator). *PAM: Prereferral assessment model*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, July, 2001.
- Mattingly, L. (Facilitator). *Reducing behavioral referrals, suspensions, and expulsions: The use of social skills training and other behavioral interventions in the classroom*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, August, 2001.
- Mesmer, E., & Woodruff, D. (Facilitators). *Behavioral interventions and strategies*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, May, 2000.

Ortiz, A. (Facilitator). *Preventing inappropriate referrals*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, December, 2001.

Townsend, B., & Webb-Johnson, G. (Facilitators). *Culturally Responsive Classroom Management*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, March, 2002.

Tracey, D. (Facilitator). *Using co-teaching and teaming strategies to facilitate inclusion for students with disabilities*. Chat event. Washington, DC: Elementary and Middle Schools Technical Assistance Center, July, 2001.

## **Internal Support Documents**

Corwin, H., Ruedel, K., Diamond, C., & Shanley, J. (2001). *EMSTAC staff manual*. Prepared for the Elementary and Middle Schools Technical Assistance Center, Washington, DC.

Margolin, J. (2001). *EMSTAC database manual*. Prepared for the Elementary and Middle Schools Technical Assistance Center, Washington, DC.

Shanley, J. (2000). *EMSTAC materials and product development team manual*. Prepared for the Elementary and Middle Schools Technical Assistance Center, Washington, DC.

## **Presentations**

Acosta, B. (2000, October). *Math the way your teacher never taught you: Multicultural mathematics*. Presentation conducted at the CEC/DDEL Symposium on Culturally and Linguistically Diverse Exceptional Learners, Albuquerque, NM.

Acosta, B. (2001, April). *One right way? What culturally diverse students can teach us about math*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Kansas City, MO.

Acosta, B. (2002, March). *Mathematics instruction for English language learners with disabilities*. Presentation conducted at the National Association for Bilingual Education Conference, Philadelphia, PA.

Acosta, B. (2002, April). *Instructional Strategies for Teaching Mathematics to Culturally and Linguistically Diverse Students with Disabilities*. Presentation conducted at the Council for Exceptional Children Convention, New York, NY.

Acosta, B. & Brown, C. (2000, February). *Designing a portfolio assessment for English language learners*. Presentation conducted at the National Association of Bilingual Education Conference, San Antonio, TX.

Acosta, B. & Brown, C. (2001, February). *Alternative assessment for English language learners*. Presentation conducted at the National Association of Bilingual Education Conference, Phoenix, AZ.

- Acosta, B. & Killos, L. (1999, June). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Acosta, B. & Killos, L. (2000, April). *Designing a portfolio assessment for English language learners*. Poster presented at the Council for Exceptional Children Annual Convention and Exposition, Vancouver, BC.
- Acosta, B., Killos, L. & Thomas, D. (1999, November). *Becoming a change agent for research-based change*. Presentation conducted at the Collaboration Across Borders Conference, Las Cruces, NM.
- Acosta, B. & O’Cummings, M. (2002, January). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Acosta, B. & Thomas, D. (2000, June). *Implementing effective research-based change*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Davis, C., Trent, S., Kea, C., Artiles, A., Rodriguez, D., Jordan, K., Hampton, S., Froelich, K., Chavez, J., Voltz, D., & Davis, J. (2002, April). *Culturally sensitive research sponsored by the Center of Minority Research in Special Education*. Panel discussion conducted at the Council for Exceptional Children Annual Convention and Exposition, New York, NY.
- Diamond, C., & Ruedel, K. (2000, November). *Using distance education as a training vehicle: Research to practice*. Presentation conducted at the 43rd Annual Conference of the Virginia State Federation Council for Exceptional Children, Dulles, VA.
- Diamond, C., & Schwartz, A. (2002, April). *All children can read: Using adapted books to motivate student literacy*. Poster presented at the Council for Exceptional Children Annual Convention and Exposition, New York, NY.
- Diamond, C., & Schwartz, A. (2002, April). *Making a match: What to consider when selecting an intervention or program*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, New York, NY.
- Dwyer, K. & Mesmer, E. (1998, September). *Early warning – Timely response: A guide to safe schools*. Presentation conducted at the International Council for Adolescents with Emotional and Behavioral Disorders, Bethesda, MD.
- Ervin, L. & Welch, C. (2001, October). *Overview of disproportionality and its implications for African American children and youth*. Presentation conducted at the 100 Black Men of America for the Wimberly Initiative Bi-Annual Meeting, Las Vegas, NV.
- Gillins, S. & Welch, C. (2001, October). *EMSTAC: A problem solving approach for identifying effective resources and interventions for disproportionality*. Presentation conducted at the 100 Black Men of America for the Wimberly Initiative Bi-Annual Meeting, Las Vegas, NV.

- Hamilton, J. (1998, February). *Moving research into practice in special education*. Panel discussion conducted at the National Information Specialists Meeting, Washington, DC.
- Hamilton, J., Ball, W., & Zorfass, J. (1999, June). *Lessons learned in providing technical assistance at the local level*. Presentation conducted at the Office of Special Education Programs 9<sup>th</sup> Annual Technical Assistance and Dissemination Conference, Washington, DC.
- Hamilton, J., Dailey, D., Carl, B., & Ritter, S. (2002, April). *Is Your School Improving Outcomes for Students with Disabilities: Guesswork or Science?* Presentation conducted at the Council for Exceptional Children Convention, New York, NY.
- Hamilton, J., & McInerney, M. (1999, October). *Moving research into practice in special education*. Presentation conducted at the American Institutes for Research Board Presentation, Washington, DC.
- Hamilton, J., & McInerney, M. (2001, April). *EMSTAC: Providing inside-outside support for new practices*. Presentation conducted at the Council for Exceptional Children Annual Conference and Exposition, Kansas City, MO.
- Hamilton, J., McInerney, M., Thomason, J., & Dimino, J. (1999, April). *National technical assistance needs: Strategies to improve the picture*. Presentation conducted at the Annual Council for Exceptional Children Conference, Charlotte, NC.
- Hamilton, J., McInerney, M., Thomason, J., & Dimino, J. (2000, April). *Reforming schools in an era of increased accountability: A professional development model*. Presentation conducted at the Annual Council for Exceptional Children Conference, Vancouver, B.C.
- Hamilton, J., McInerney, M., Woodruff, D., Thomason, J., & Dimino, J. (2001, April). *Achieving accountable schools through Linking Agents: An insider-outsider professional development model*. Presentation conducted at the Annual Council for Exceptional Children Conference, Kansas City, MO.
- Hamilton, J., & Pisacane, K. (1999, April). *Meeting the technical assistance needs of elementary and middle school students*. Poster presented at the Annual Council for Exceptional Children Conference, Charlotte, NC.
- Hamilton, J., & Zorfass, J. (1998, June). *Technical assistance lessons at the local level*. Presentation at the Office of Special Education Programs 8<sup>th</sup> Annual Technical Assistance and Dissemination Conference, Washington, DC.
- Havelock, R., & Ruedel, K. (2002, April). *A change agent in special education: A new role -- A new opportunity*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, New York, NY.
- Humphrey, L., Fearn, K. & Welch, C. (2001, November). *Addressing overrepresentation of African American and other students through promising practices*. Presentation conducted at the National Alliance of Black School Educators Annual Conference, Los Angeles, CA.

- Killos, L., Nishi, L., & Ruedel, K. (2001, March). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Killos, L. & Ritter, S. (2001, April). *What is left to learn? Using classroom based assessments in early childhood literacy programs*. Presentation conducted at the Council for Exceptional Children Annual Conference and Exposition, Kansas City, MO.
- Lyons, E., Mesmer, E. & Crawford, K. (1999, April). *From elementary to middle school: A longitudinal analysis of a nationally recognized school reform project*. Presentation conducted at the National Association of School Psychologists, Las Vegas, NV.
- McInerney, M., Nishi, L. & Shami, M. (1999, October). *EMSTAC recruitment*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- McInerney, M. & Woodruff, D. (1998, April). *Overcoming "parallel play": Developing new systems to promote family and professional collaboration*. Presentation conducted at the Council for Exceptional Children Annual Conference and Exposition, Minneapolis, MN.
- McInerney, M., Woodruff, D., [Margolin, J. & Ruedel, K. via videoconference] (2001, November). *Effective partnerships to improve services for children*. Presentation conducted at the Parents, Inc. Pathways Conference, Anchorage, AK.
- McInerney, M., Woodruff, D. & Walsh, K. (2000, June). *Providing technical assistance at the local level: Lessons learned*. Presentation conducted at the Office of Special Education Programs 10<sup>th</sup> Annual Technical Assistance and Dissemination Conference, Washington, DC.
- Mesmer, E. (2001, November). *Developing guidelines for the assessment of students suspected of having an emotional disturbance – Part I*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Mesmer, E. (2002, January). *Developing guidelines for the assessment of students suspected of having an emotional disturbance – Part II*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Mesmer, E. (2002, February). *Congruent use of behavioral interventions across classroom settings: Implications for the development of interventions for students with emotional/behavioral disorders within inclusive environments*. Presentation conducted at the National Association of School Psychologists Annual Convention, Chicago, IL.
- Mesmer, E., & Diamond, C. (2000, November). *Improving student outcomes: The Elementary and Middle Schools Technical Assistance Center*. Presentation conducted at the State Meeting of Directors of Special Education, Kansas State Board of Education, Topeka, KS.
- Mesmer, E., Diamond, C. & Welch, C. (2001, March). *What is ED? And other behavioral issues*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center at a Professional Development In-Service Training for a participating district.

- Mesmer, E. Nishi, L. & Shami, M. (1999, November). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Mesmer, E., Nishi, L. & Shami, M. (2000, January). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Mesmer, E., Ritter, S. & Carl, B. (2001, April). *Can we bridge the gap? Evaluating Systemic Change Efforts at the Local Level*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Kansas City, MO.
- Mesmer, E., Shami, M., Nicholas, D. & Nizio, M. (2001, October) *Collaboration for behavioral success: Linking local school districts to national resources*. Presentation conducted at the Getting Positive About Supporting Student Behavior Conference, Detroit, MI.
- Mesmer, M., Shanley, J. & Woodruff, D. (1999, December). *EMSTAC: Where we are, and where we are headed*. Presentation conducted at the National Advisory Group Meeting, Detroit, MI.
- Mesmer, M., Shanley, J. & Woodruff, D. (2001, January). *The Elementary and Middle Schools Technical Assistance Center (EMSTAC): A project overview*. Presentation conducted for the staff of the American Institutes for Research, Washington, DC.
- Mesmer, E. & Woodruff, D. (1999, April). *Using the stop and think problem solving process*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Mesmer, E. & Woodruff, D. (2001, April). *Characteristics of effective school-based behavioral support programs*. Poster presented at the Council for Exceptional Children Annual Convention and Exposition, Kansas City, MO.
- Mesmer, E. & Woodruff, D. (2001, October). *The Elementary and Middle Schools Technical Assistance Center: Collaborating for success*. Presentation conducted at the State Special Education Administrators Conference, Columbia, SC.
- Mesmer, E., Woodruff, D. & Sims, A. (2000, April). *Strategies for developing school-based violence prevention and response plans*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Vancouver, BC.
- Nishi, L. & Shami, M. (2000, May). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Nishi, L., Shami, M., Javorsky, R. & Sams, S. (2001, April). *Improving outcomes for students with disabilities: Collaborating to provide research-based practices in classrooms*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Kansas City, MO.
- Nishi, L., Shami, M. Javorsky, S. & Sams, S. (2001, November). *Collaboration: Teaming to provide technical assistance to local school districts to improve outcomes for students with*

- disabilities*. Presentation conducted at the Association for Education Service Agencies (AESAs) Annual Conference and Exposition, Atlanta, GA.
- Nishi, L., Shami, M. Javorsky, S. & Sams, S. (2002, April). *Collaboration: Teaming to provide technical assistance to local school districts*. Presentation conducted at the Council for Exceptional Children Convention, New York, NY.
- Nishi, L., Shami, M. & Sams, S. (2001, October). *EMSTAC Recruitment*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Nishi, L., Shami, M. & Sams, S. (2002, January). *Training on the process of change*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- O'Cummings, M. (2002, April). *Spreading the news: Using distance education to reach out to local school districts*. Panel discussion conducted at the Council for Exceptional Children Convention and Exposition, New York, NY.
- O'Cummings, M. & Whittington, R. (2002, April). *Alternative day program: Temporary educational placement for students with behavioral disabilities*. Poster presented at the Council for Exceptional Children Convention and Exposition, New York, NY.
- Ruedel, K. & Diamond, C. (2001, October). *A Guide for education personnel: Selecting an intervention or program*. Paper presented at the 44th Annual Conference of the Virginia State Federation Council for Exceptional Children, Fredericksburg, VA.
- Shanley, J. (2000, March). *Measuring outcomes of youth leadership programs: Using program evaluation principles effectively*. Presentation conducted at the President's Committee on Employment of People with Disabilities Annual Youth Leadership Meeting, Washington, DC.
- Shanley, J. (2000, June). *Linking with EMSTAC to access research based resources*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Shanley, J. (2000, November). *Non-traditional career paths for special education personnel: The new millennium brings new opportunities*. Presentation conducted at the Teacher Education Division, Council for Exceptional Children Annual Meeting, Las Vegas, NV.
- Shanley, J. (2001, June). *The Linking Agent approach as a community of practice to accomplish change at the local level*. Presentation conducted at the Office of Special Education Programs 11<sup>th</sup> Annual Technical Assistance and Dissemination Conference, Washington, DC.
- Shanley, J., Pisacane, K. & Ritter, S. (2000, April). *Technology in professional development: Building research practices into teaching through Web based training*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Vancouver, BC.

- Shanley, J., Rodriguez, C. & Brown, J. (2001, October). *The use of adult learning theory to guide curriculum development and the use of interactive multimedia*. Presentation conducted at the Cultural Competent Curriculum Module Project Kick-off Meeting, Washington, DC.
- Shanley, J. & Ruedel, K. (2001, April). *Sharing our learning – Accessing research-based practices through the Web*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Kansas City, MO.
- Shanley, J. & Whittington, R. (2002, April). *An alternative day program for students with emotional and behavioral disabilities*. Presentation at the Council for Exceptional Children Convention and Exhibition, New York, NY.
- Shanley, J., Woodruff, D. & Mesmer, M. (2001, December). *EMSTAC: Where we are, and where we are headed*. Presentation conducted at the National Advisory Group Meeting, Washington, DC.
- Sims, A. (2000, February). *Minority disproportionality in special education*. Presentation conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Sims, A., Smith, M. & Welch, C. (2000, October). *A School based model to examine minority disproportionality in special education*. Presentation conducted at the Council for Exceptional Children (CEC) Division for Culturally and Linguistically Diverse Learners (DDEL) Bi-Annual Meeting, Albuquerque, NM.
- Sims, A., Townsend, B., Welch, C. & Woodruff, D. (2000, October). *School-wide discipline: Ensuring successful school experiences for all students*. Presentation conducted at the Council for Exceptional Children (CEC) Division for Culturally and Linguistically Diverse Learners (DDEL) Bi-Annual Meeting, Albuquerque, NM.
- Sims, A., Welch, C., Adams, J.Q. & McGowan, D. (2001, June). *Disproportionality in special education and the achievement gap: Common issues, shared solutions*. Presentation conducted at the Policymaker Partnership Annual Meeting, Washington, DC.
- Sims, A., Welch, C. & Smith, M. (2001, February). *A District-wide model to examine minority disproportionality: Raleigh retreat*. Presentation conducted at the Annual Retreat for Administrators in North Carolina, Pinehurst, NC.
- Sims, A., Woodruff, D. & Mesmer, E. (2000, April). *Alternative educational interim placements: What works*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Vancouver, BC.
- Welch, C. (1999, November). *The ILIAD Partnership-Special education and the African American child: Solutions for the problem of disproportionate representation*. Panel member at the National Alliance of Black School Educators (NABSE) Annual Conference, Nashville, TN.
- Welch, C. (2000, April). *Exploring parents' experiences during transition: A catalyst for creating culturally sensitive paradigms*. Paper presented at the Multicultural Education and Cultural Diversity Symposium, Hampton University, Hampton, VA.

- Welch, C. (2001, April). *Culturally competent assessment*. Panel member at the National Association of School Psychologists Annual Convention, Washington, DC.
- Welch, C. (2001, August). *EMSTAC generated pre-referral interview instrument and effective interviewing techniques*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Welch, C. & Davis, C. (2001, October). *EMSTAC and CECP: Promoting culturally competent service delivery to reduce disproportionality for diverse learners with behavior disorders*. Presentation conducted at the Council for Children with Behavioral Disorders Annual Conference, Atlanta, GA.
- Welch, C. & Davis, C. (2002, April). *Comrise Project*. Panel discussion conducted at the Council for Exceptional Children Annual Convention and Exposition, New York, NY.
- Welch, C., Mead, J. & Sims, A. (2001, February). *Challenges and strategies for disproportionality: Procedures, processes, and promising practices*. Presentation conducted at the U.S. Department of Education, Office of Special Education Programs (OSEP) Personnel Preparation Conference, Washington, DC.
- Welch, C., Ruedel, K. & Sims, A. (2000, December). *Training on the process of change and disproportionate representation of minority youth in special education*. Training conducted on behalf of the Elementary and Middle Schools Technical Assistance Center for a participating district.
- Welch, C. & Osher, D. (April, 2002). *Culturally responsive strategies for reducing disproportionality: Utilizing partnerships to create equitable learning communities*. Poster presented at the Council for Exceptional Children Annual Conference and Exposition, New York, NY.
- Wood-Garnett, S., Welch, C. & Sims, A. (2000, November). *Commitment, cooperation and collaboration: Federally funded projects and issues of disproportionate representation in special education*. Presentation conducted at the National Alliance of Black School Educators (NABSE) Annual Conference, Philadelphia, PA.
- Wood-Garnett, S., Welch, C. & Timmes, J. (2000, November). *Commitment, cooperation, and collaboration: Strategies for addressing issues related to African American youth in special education*. Presentation conducted at the National Alliance of Black School Educators Annual Conference, Philadelphia, PA.
- Woodruff, D. (1999, April). *School-wide discipline and behavioral assessment: Ensuring successful school experiences for all students*. Poster presented at the Council for Exceptional Children Annual Conference and Exposition, Charlotte, NC.
- Woodruff, D. (2000, April). *Improving student outcomes: The Elementary and Middle School Technical Assistance Center*. Presentation conducted at the Council of Chief State School Officers Project to Improve Achievement in High Poverty Schools, Long Beach, CA.
- Woodruff, D. (2000, October). *School-wide discipline: Ensuring successful school experiences for all students*. Presentation conducted at the Council for Exceptional Children and the Division

for Culturally and Linguistically Diverse Exceptional Learners 2000 Symposium, Albuquerque, NM.

- Woodruff, D. (2000, October). *Using technical assistance in schools to improve services for children with and at risk for disabilities*. Presentation conducted at the Montana Conference of Education Leadership, Billings, MT.
- Woodruff, D. (2000, November). *Effective partnerships with schools to improve services for children with disabilities*. Presentation conducted at the International Adolescent Conference, Portland, OR.
- Woodruff, D. (2001, June). *Creating a school environment that promotes mental health and addresses the emotional and behavioral needs of all students: A three tiered approach*. Presentation conducted at the IDEA Partnerships National Summit, Washington, DC.
- Woodruff, D., Ball, W. & Paroz, J. (2001, March). *Effective practices: The Elementary and Middle Schools Technical Assistance Center*. Presentation conducted for a participating district.
- Woodruff, D., Ball, W. & Paroz, J. (2001, November). *Improving student outcomes through effective partnerships: Lessons learned*. Presentation conducted at the Council of Administrators of Special Education, 12<sup>th</sup> Annual CASE Conference, Irvine, CA.
- Woodruff, D., Jackson, S., & Shami, M. (2002, April). *Choosing Effective Behavioral Supports for Students with Disabilities*. Presentation conducted at the Council for Exceptional Children Convention, New York, NY.
- Woodruff, D., & Mesmer, E. (1999, October). *Developing state and district level partnerships with the Elementary and Middle Schools Technical Assistance Center*. Presentation conducted at the South Carolina State Department of Education, Office of Exceptional Children, Columbia, SC.
- Woodruff, D., Mesmer, M. & Shanley, J. (2000, December). *EMSTAC: Where we are, and where we are headed*. Presentation conducted at the National Advisory Group Meeting, Eugene, OR.
- Woodruff, D. & Reschly, D. (2001, October). *Disproportionate representation of minorities in special education*. Presentation conducted at the U.S. Department of Education, 8<sup>th</sup> Annual Regional Conference on Improving America's Schools, Mobile, AL.
- Woodruff, D. & Reschly, D. (2001, November). *Disproportionate representation of minorities in special education*. Presentation conducted at the U.S. Department of Education, 8<sup>th</sup> Annual Regional Conference on Improving America's Schools, Reno, NV.
- Woodruff, D. & Reschly, D. (2001, December). *Disproportionate representation of minorities in special education*. Presentation conducted at the U.S. Department of Education, 8<sup>th</sup> Annual Regional Conference on Improving America's Schools, San Antonio, TX.
- Woodruff, D., Welch, C. & Bonner-Tompkins, E. (2001, May). *The Elementary and Middle Schools Technical Assistance Center: A resource for school improvement*. Presentation conducted at the Council of Chief State School Officers Initiative to Improve Achievement in High Poverty Schools, Baltimore, MD.

- Woodruff, D., & Mesmer, E. (2001, February). *Implementing effective school-wide behavioral supports for at-risk youth: An examination of critical factors*. Presentation conducted at America's At Risk Youth National FORUM, Myrtle Beach, SC.
- Woodruff, D., Mesmer, E. & Sims, A. (2000, April). *A review of school-wide discipline programs*. Presentation conducted at the Council for Exceptional Children Annual Convention and Exposition, Vancouver, BC.
- Woodruff, D., Ruedel, K., Nishi, L., & Ball, W. (2001, May). *The Elementary and Middle Schools Technical Assistance Center: A resource for school improvement*. Presentation conducted at the Council for Chief State Schools Officer Meeting, Baltimore, MD.
- Woodruff, D. & Welch, C. (2001, March). *The Elementary and Middle Schools Technical Assistance Center: A disproportionality resource*. Presentation conducted at the 100 Black Men of America, Inc. and The Policymaker Partnership, The Wimberly Initiative on Overrepresentation, Charlotte, NC.

## Products

- Acosta, B., Berman, K., Gerver, M., Hamilton, J., Lipson, S., Nishi, L., Ritter, S., Wald, J., & Young, M. (2001). *Study skills: Information and strategies for education professionals*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research. HS97016001.
- Acosta, B., Gerver, M., Nishi, L., O'Cummings, M., Ritter, S., & Shanley, J. (2002 June). *Literacy: Building Literacy Knowledge for Education Professionals*. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.
- Bauman, W., Welch, C., & Davis, C. *Creating equitable learning environments: Practical information on disproportionality*. EMSTAC extra. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.
- Corwin, H., Mesmer, E., & Sunshine, C. (2002). *Service delivery models for students at-risk of and with emotional and behavioral disabilities: Abbreviated review and resources*. EMSTAC extra. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.
- Corwin, H., & Shanley, J. (2002). *Staff development for the reintegration of students with disabilities in the general education classroom*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special

Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Diamond, C., Killos, L., Schwartz, A., & Zaidi, A. (2001). *Everyone wins: Accessing the general education curriculum in various settings*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Gersten, R., & Dimino, J. (2001). The realities of translating research into classroom practice. *Learning Disabilities Research & Practice, 16* (2), 120-130.

Gerver, M., Shanley, J., & O’Cummings, M. (2002). *Early career awareness and development for students with disabilities*. EMSTAC extra. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Havelock, R., & Hamilton, J. (book submitted for publication). *Guiding change in special education*. Washington, DC: the American Institutes for Research.

Killos, L. and B. Acosta. (2000). *English language development/ English as a second language*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Margolin, J., & Smith, M. (2001). *Addressing the challenges of autism: Research findings and promising practices*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Mesmer, E., Woodruff, D., Corwin, H., Shami, M., Saunders, J., & Sunshine, C. *Support for positive student behavior*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

McInerney, M., D. Osher, & Acosta, B. (1999). *Literacy instruction for students who are deaf or hard of hearing*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Mesmer, E., Woodruff, D. (1999). *Social skills instruction and school-wide discipline*. Communication product. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special Education Programs of the U.S. Department of Education, Washington, DC: the American Institutes for Research.

Nishi, L., & Ritter, S. (2002). *Literacy instruction and statewide assessment preparation for students with reading (learning) disabilities*. EMSTAC extra. Prepared for the Elementary and Middle Schools Technical Assistance Center, under contract with the Office of Special

Education Programs of the U.S. Department of Education, Washington, D.C.: the American Institutes for Research.

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