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ABSTRACT

This directory provides abstracts of 236 current research projects funded by the Division of Innovation and Development, Office of Special Education Programs, U.S. Department of Education. Abstracts are grouped into the following 10 topical sections: (1) assessment and evaluation; (2) cultural differences; (3) infants, young children, and families; (4) instructional effectiveness, models, and learning; (5) policy, restructuring, and service delivery issues; (6) secondary education and postsecondary outcomes; (7) serious emotional disturbance and behavioral disorders; (8) severe disabilities; (9) teacher training, retention, and supply and demand; and (10) technology and software. The information for each project includes: title; the principal investigator's name, address, and telephone number; grant number; beginning and ending dates; and a summary covering the project's purpose, method, and anticipated products. Appendixes provide indexes to principal investigators, institutions, subjects, states, and grant competitions. (DB)

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Research in the Education of  
Individuals with Disabilities

# Innovation and Development in Special Education

Directory of Current Projects  
1995 Edition

U.S. Department of Education  
Office of Special Education Programs  
The Division of Innovation and Development

EC 303 861

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# Research in the Education of Individuals with Disabilities

## **Innovation and Development in Special Education Directory of Current Projects 1995 Edition**

**Anmarie Kallas**  
**Editor**

**U.S. Department of Education  
Office of Special Education Programs  
The Division of Innovation and Development**

Prepared by:  
The ERIC/OSEP Special Project  
ERIC Clearinghouse on Disabilities and Gifted Education  
The Council for Exceptional Children



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# PREFACE

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To be meaningful, research must respond to the needs of the community it is meant to serve, and the focus of research must evolve as that community's priorities change. The Division of Innovation and Development (DID), the research and development arm of the Office of Special Education Programs (OSEP), has taken up this challenge by supporting closer relationships between research and practice, exchanging findings and needs with broader audiences, encouraging the development of projects in key areas, and providing direct service to researchers and users.

The work and achievements of DID have helped pioneer many common practices found in classrooms today. For example, the Division was one of the first agencies to fund research on cooperative learning and on the effects of early childhood intervention. The Division also has funded seminal work in reciprocal teaching, direct instruction, peer tutoring, learning strategies, and behavioral interventions that have led to dozens of strategies with greater success and enhanced efficiencies for children and youth with disabilities. In fact, the Division's R&D efforts have touched on virtually every aspect of teaching and learning, from exploring the influences of parents and families on learning to teacher planning; from psychosocial development to outcomes-based learning; and from understanding how to best use technology in classrooms to exploring how students use their own language and communication systems to learn. The Division has taken on many of the biggest research challenges facing education today, with results that continue to reshape how educators, policymakers, and the public think about teaching and learning.

DID is responsible for four discretionary programs, funded at nearly \$40 million in fiscal year 1995 and authorized under the Individuals with Disabilities Education Act (IDEA):

Research (\$20.6 million);  
Technology, Educational Media, and Materials (\$10.8 million);  
Serious Emotional Disturbance (\$4.1 million); and  
Special Studies (\$4.1 million).

Over the last decade, DID has supported ongoing changes in special and general education and efforts to support knowledge production and use as well as knowledge access. DID has moved toward an agenda that focuses on results—achieving better outcomes for children and youth with disabilities. This transformation was motivated by a commitment of DID leadership to assure that the research knowledge in which they have heavily invested is accessed and used by practitioners and policymakers to improve their practices, programs, and policies. This directory of project abstracts will provide an overview of the ongoing efforts of researchers supported by DID who are helping to advance DID's results-oriented mission.

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# INTRODUCTION

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The 1995 edition of *Innovation and Development in Special Education: Directory of Current Projects* provides basic information on all research projects funded by the Division of Innovation and Development, Office of Special Education Programs, U.S. Department of Education, through September 1994.

In this edition of the directory you will find abstracts of 236 projects separated into 10 sections according to the primary focus of the study. The 10 sections include: Assessment and Evaluation; Cultural Differences; Infants, Young Children, and Families; Instructional Effectiveness, Models, and Learning; Policy, Restructuring, and Service Delivery Issues; Secondary Education and Postsecondary Outcomes; Serious Emotional Disturbance and Behavioral Disorders; Severe Disabilities; Teacher Training, Retention, and Supply and Demand; and Technology and Software.

The appendices in the back of the directory include Principal Investigator, Institution, Subject, State, and Competition indices to facilitate finding specific information. The Principal Investigator, Institution, and state indices include page numbers for each occurrence of the name of an investigator, institution, or state. The Competition index lists the title of each competition and each occurrence of a project funded under that competition. Each project appears once in the subject index according to the secondary or tertiary focus of the project. For example, a project placed in Section 10: Technology and Software, which is conducting research into the benefits of electronically enhanced text for students who are hard-of-hearing, is cross-referenced in the subject index under Deaf/Hard-of-Hearing.

The information in this directory is taken directly from OSEP's in-house database of research grants. If any errors are found in this material, they should be reported to the ERIC/OSEP Special Project so that the database, and future editions of this directory, will be as accurate as possible.

Anmarie Kallas  
Editor



***SECTION 1:***

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***ASSESSMENT  
AND  
EVALUATION***

## **Adaptation and Analysis of the Stanford Achievement Test, 9th Edition, and Wechsler Intelligence Scale for Children, 3rd Edition, with Deaf and Hard-of-Hearing Students**

**PRINCIPAL INVESTIGATOR:**

Allen, Thomas  
Gallaudet University  
800 Florida Avenue, N.E.  
Washington, DC 20002  
202-651-5575

GRANT NUMBER: H023C40030

BEGINNING DATE: 1/09/94

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This project will adapt and standardize the Stanford Achievement Test and will examine the validity and utilization of the Wechsler Intelligence Scale for Children for use with deaf and hard-of-hearing students.

**METHOD:** A nationwide stratified cluster sample will be drawn to accurately represent the population of deaf and hard-of-hearing students in United States special education programs, with particular attention given to assuring the adequate representation of minority, ethnic, and racial groups. This sample will be used to develop special norms for the SAT-9 and to study the validity and utilization of the WISC-III. Nationally representative subsets of the sample will then be used to conduct a supplemental mathematics application and longitudinal studies.

**ANTICIPATED PRODUCTS:** Dissemination of the information developed through the project will take the form of test administration materials, technical manuals, and journal articles.

## **Exploring the Relationship Between Curriculum-Based Measurement and Teacher Effectiveness**

**PRINCIPAL INVESTIGATOR:**

Allinder, Rose M.  
University of Nebraska - Lincoln  
303 Administration Building  
Lincoln, NE 68583-0430  
402-472-5457

GRANT NUMBER: H023C30111

BEGINNING DATE: 4/01/93

ENDING DATE: 3/30/96

### **ABSTRACT**

**PURPOSE:** This project will examine the effects of curriculum-based measurement (CBM) on teacher effectiveness variables through a series of three studies.

**METHOD:** Each of the substudies planned will include 30 special education resource teachers assigned randomly to treatment and control groups, plus 60 children with mild disabilities. The first study will investigate the effects of CBM on teacher characteristics and school organizational factors important for teacher effectiveness. The second study will explore the effects of CBM on pre- and postinstructional variables which are related to teacher effectiveness. The third study will examine effects of CBM on teachers' behaviors while delivering instruction.

**ANTICIPATED PRODUCTS:** Results of this research will add to the current knowledge base regarding how to enhance and increase teacher effectiveness and thus student achievement. Scholarly articles describing research findings

will be submitted to appropriate professional journals. Findings and training procedures will be shared at state and national professional conferences. Technical reports on all aspects of the project will also be written and made available upon demand.

## **A National Evaluation of Residential Camp Programs Serving Persons with Disabilities**

**PRINCIPAL INVESTIGATOR:**

Brannan, Steve  
Institute for Career and Leisure  
Development  
4110 Sunburst Court  
Alexandria, VA 22303  
703-922-7045

GRANT NUMBER: H023C30002  
BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/96

### **ABSTRACT**

**PURPOSE:** The project will conduct a national evaluation of residential camp programs serving persons with disabilities.

**METHOD:** The investigation will include 14 residential school and/or summer camp programs serving children with disabilities, to include a total of approximately 1,500-2,000 cases nationwide. A pre-post measurement will be employed to determine campers' affective growth resulting from their exposure to residential camp programming. These measurements will be conducted by parents and caregivers to better measure program generalization and impact beyond the camp experience. A second test will be administered to determine effects of particular components of outdoor programming on skill acquisition of campers. A case study approach will also be employed using interviews and observations of a representative sample of campers from each regional site.

**ANTICIPATED PRODUCTS:** The study will contribute significantly to the understanding of the value of planned outdoor programming for children with disabilities, address the benefits of residential camping experiences for persons with varying levels of disability, and provide professionals with validated and comprehensive procedures for evaluating residential camp programs serving children with disabilities.

## **Observational Assessment of Social Goals and Strategies of Young Children with Disabilities and Their Peers**

**PRINCIPAL INVESTIGATOR:**

Brown, William  
Vanderbilt University  
Peabody College of Education  
Department of Special Education  
Box 328  
Nashville, TN 37203  
615-322-2249

GRANT NUMBER: H023A30035  
BEGINNING DATE: 12/01/93

ENDING DATE: 1/31/95

### **ABSTRACT**

**PURPOSE:** This project will develop an observational assessment system. The system will measure the social goals and strategies that children with and without disabilities employ in interactions with their peers.

**METHOD:** Observational samples will be collected at two points in time for 40 preschool children with disabilities and 40 nondisabled peers. Analyses of reliability and validity of the observational instrument will be conducted, and the

relationship between social goals and strategies for children with and without disabilities will be examined.

**ANTICIPATED PRODUCTS:** This work will provide researchers with a tool for investigating the nature of peer interactions of children with disabilities and nondisabled children. The project expects to be able to identify types of goals that children with disabilities have less success with, as compared to their nondisabled peers.

### Link in Leisure Education

**PRINCIPAL INVESTIGATOR:**

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University of North Carolina  
Center for Recreation and  
Disability Studies  
730 Airport Road, Suite 204  
Chapel Hill, NC 27599-8145  
919-962-0534

GRANT NUMBER: H023C20199

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** This investigation will focus on understanding and documenting the extent to which self-determination skills can be facilitated using an individualized leisure education planning process with students with mental retardation.

**METHOD:** The first phase of research will feature a pilot study using a quasi-experimental single subject research design. Phase 2 will incorporate a pretest/posttest quasi-experimental design using curriculum-based measures to investigate the effect of the leisure education intervention on dependent variables. Phase 3 will focus on generalization to the regular education setting, using a sample of students with mental retardation from grades 6 through 8 who have been referred for leisure intervention services.

**ANTICIPATED PRODUCTS:** Specific outcomes expected include: (1) development of a systematic individualized leisure education planning process; (2) development of a comprehensive teacher training program promoting inclusion of leisure education as part of the special education curriculum; (3) development of a family training program to help families become active participants in their children's education; (4) documentation of the relationship of the leisure education program of self-determination and recreation participation; and (5) documentation of the role and significance of home-school collaboration and follow-up. Products will include: (1) internally printed reports and monographs; (2) articles submitted to journals and magazines; (3) presentation of results at professional conferences; (4) easy-to-read parent/family brochures and booklets; and (5) model program guidelines.

## **Improving Future LEA Observational Assessment Practices Through Instrument Dissemination and Technical Support to Preservice Training Programs**

**PRINCIPAL INVESTIGATOR:**

Greenwood, Charles R.  
Juniper Gardens Children's Project  
1614 Washington Boulevard  
Kansas City, KS 66102  
913-321-3143

GRANT NUMBER: H023A40040

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to stimulate the local education agency (LEA) adoption of improved observational instruments; those that are based on recent advances in conceptual frameworks and empirical studies designed to inform teaching, that are research-based, and that employ computer technology.

**METHOD:** The study will disseminate the Ecobehavioral Assessment Systems Software (EBASS) observational assessment knowledge base, instruments, and practices that use portable computer technology for data collection, scoring, analysis, and reporting. Thus, the objectives of this project are: to (a) improve EBASS by adding materials supporting the preservice training of assessors; (b) disseminate the EBASS instrument directly to preservice programs; (c) provide short-term technical support to these programs; and (d) evaluate the impact on practice.

**ANTICIPATED PRODUCTS:** This project will take a recently developed innovation, the product of more than 10 years of research and development, and promote its future adoption by providing a brief but broad-band preservice stimulus designed to speed its use nationally.

## **Longitudinal Affective and Social Outcomes of Special Education Placement Options for Students with Mild Disabilities**

**PRINCIPAL INVESTIGATOR:**

Gresham, Frank  
University of California at  
Riverside  
School of Education  
Riverside, CA 92521  
909-787-5228

GRANT NUMBER: H023C30103

BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/98

### **ABSTRACT**

**PURPOSE:** This project will assess the stability and change of the social and affective characteristics of children with mild disabilities placed in "segregated" versus "integrated" settings compared to "at-risk" children and children who are achieving normally.

**METHOD:** A total of 300 referred third graders will be randomly selected and matched in terms of age, gender, and ethnicity to 100 third graders identified as achieving normally. Measurement of social and affective outcomes will include sociometric assessments of peer acceptance/rejection, and teacher ratings of social skills, self-concept, loneliness, school attitudes, and critical behavioral events. In addition, comprehensive assessments of students' school histories will be recorded

and quantified from existing school records. The project will examine both short-term and long-term effects of various educational placements on students' social and affective development using a prospective longitudinal research design.

**ANTICIPATED PRODUCTS:** Findings from this project will be targeted to have an impact in three areas: the academic community and other research activities, the cooperating school districts, the California State Department of Education, and the department's special education section. In addition to the conventional outlets of published reports and conference presentations within the research community, personnel from state school districts will be involved in education community conference presentations and publications to target educators and policy makers.

### **Play Project: Using Play to Teach About Objects, Events, and Language**

**PRINCIPAL INVESTIGATOR:**

Lifter, Karin N.  
Northeastern University  
360 Hunting Avenue  
Boston, MA 02115  
617-437-2485

GRANT NUMBER: H023A30050

BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

#### **ABSTRACT**

**PURPOSE:** This project will execute a series of studies using play activities as a medium of assessment and intervention designed to improve the instruction and learning of preschoolers with autism or autistic-like behaviors.

**METHOD:** Learning will be improved in the play activities through: (a) using play as a medium of intervention supporting cognitive, linguistic, and social developments; (b) fine-tuning the identification of play objectives for intervention to enhance acquisition and generalization of these activities; and (c) integrating language objectives with developmentally-based play objectives to increase the opportunities for implementation of both developmental goals in the same activities.

**ANTICIPATED PRODUCTS:** The research will result in the development of new methodologies for intervention and advances in assessment for preschoolers with developmental disabilities. Products of the proposed study will include a refined play assessment instrument, a manual, and a set of training materials that incorporate language objectives and play objectives into a developmentally appropriate sequence of play activities that can be used by teachers working with preschoolers with autism and autistic-like behaviors in an integrated classroom.

## Utility of Alternative Assessment Models for Identification of Children with Mild Disabilities

**PRINCIPAL INVESTIGATOR:**  
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University of California at  
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School of Education  
Riverside, CA 92521  
714-787-5228

GRANT NUMBER: H023C20002  
BEGINNING DATE: 7/01/92

ENDING DATE: 6/30/97

### ABSTRACT

**PURPOSE:** This project intends to establish the utility of alternative assessment vis-a-vis traditional assessment in establishing the eligibility of students with mild disabilities for special education and related services.

**METHOD:** Two interrelated studies will be performed. The first study will compare the extent to which current referral practices and alternative assessment procedures result in identification of the same at-risk children as would traditional assessment procedures. The first study will consist of 135 students evenly divided among three ethnic groups who will be studied, assessed, and referred for formal assessment using alternative assessment procedures. The second study will compare the utility of four alternative assessment models (including dynamic assessment, achievement-achievement discrepancy, neuropsychological, and behavioral models). Investigators will evaluate 204 students, again stratified among three ethnic groups, using an alternative assessment model and traditional assessment models, with order of testing randomized. Degrees of coincidence and agreement among ethnic groups and between alternative and traditional models will be studied.

**ANTICIPATED PRODUCTS:** Findings from this project will inform policy makers on the utility of alternative assessment for reducing ethnic disproportions; moreover, it will permit informed decisions on the relative merits of the four commonly recommended alternatives. The project will also evaluate any ethnic bias among the models evaluated.

## Thinking in Science: A Supported Inquiry Approach for Students with Learning Disabilities in the Regular Classroom

**PRINCIPAL INVESTIGATOR:**  
Morocco, Catherine Cobb  
Education Development Center  
(EDC), Inc.  
School and Society Programs  
55 Chapel Street  
Newton, MA 02160  
617-969-7100

GRANT NUMBER: H023C20189  
BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/95

### ABSTRACT

**PURPOSE:** This study will: (1) refine the Supported Inquiry Science approach so that it provides teachers with ways to assess diverse learning needs throughout their teaching of a science unit; (2) apply the approach at the 6th-grade level; and (3) determine whether or not the approach can be applied within a biological science topic.

**METHOD:** The first 2 years of the project will focus on development and piloting of diagnostic assessment and performance assessment strategies, as well as learning how to apply the approach in the 6th grade. The approach will



be piloted within a biology subject in these years as well. The third year will include a rigorous field-test of the Supported Inquiry Science model in two grade levels and content domains. The research design will include an in-depth study of teacher implementation, use of both traditional and alternative performance assessment measures of student concept knowledge and inquiry skills, rigorous sampling, and an innovative training model.

**ANTICIPATED PRODUCTS:** Results of research will be disseminated to practitioners and researchers through publications and presentations and through development of guidelines that teachers and administrators can use to enhance science learning in regular education classes for students with learning disabilities.

### **Generalized Effects of Functional Communication Training: The Role of General Case Training and Behavioral Contingencies**

**PRINCIPAL INVESTIGATOR:**

O'Neill, Robert  
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Specialized Training Program  
Center on Human Development  
1761 Adler  
Eugene, OR 97043-1235  
503-346-2465

GRANT NUMBER: H023A30085  
BEGINNING DATE: 10/01/93

ENDING DATE: 3/31/95

#### **ABSTRACT**

**PURPOSE:** The project will focus on assessing the influence of general case training procedures and specific behavioral contingencies in achieving generalized effects of functional communication training.

**METHOD:** The project will employ a systematic general case approach for determining the range of settings and situations that are important to include in training and generalization assessment of communication skills. After a conceptual review paper has been developed to define the role of general case procedures and behavioral contingencies in generalization of communication training, a research study will be conducted to document the functional relationship between general case training procedures, specific behavioral consequences, and generalized use of trained communicative skills. This study will emphasize the programming of specific consequences for problem behaviors.

**ANTICIPATED PRODUCTS:** The two major outcomes of the project will include: (1) a conceptual review paper delineating the role of general case procedures and behavioral contingencies in functional communication training; and (2) a research study and report on the effectiveness of such procedures in achieving generalized performance of alternative communicative skills.



## **A Path to Literacy for Deaf Children Through English and American Sign Language (ASL)**

### **PRINCIPAL INVESTIGATOR:**

Prinz, Philip  
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1640 Holloway Avenue  
San Francisco, CA 94132  
415-338-7655

GRANT NUMBER: H023C30074  
BEGINNING DATE: 8/01/93

ENDING DATE: 7/31/97

### **ABSTRACT**

**PURPOSE:** The project will assess the relationship between American Sign Language (ASL) competence and English literacy among deaf school children aged 8 to 15 years.

**METHOD:** Approximately 200 students aged 8 to 15 enrolled in a residential school for the deaf will be tested annually for 3 years. ASL skills will be measured using a specially devised comprehension test, administered by videotape and requiring a nonverbal response. English literacy will be measured using the Woodcock-Johnson Psycho-Educational Test Battery--Revised and a psycholinguistic computer measure developed by the investigator. Performance IQ will also be assessed. Research questions will then address the synchronic and diachronic relationships between ASL skills and English literacy, as well as exploring at what age ASL plays its greatest role in facilitating gains in English literacy.

**ANTICIPATED PRODUCTS:** Findings of research will be disseminated via published research reports, assessment guides, diagnostic manuals, and presentations at national conferences. Results will serve as a basis for future assessment of ASL and academic performance to be carried out at participating schools to further extend the database. Follow-up research is expected to implement and evaluate a full-scale literacy program using ASL and English for deaf children in the United States. This program will serve as a model to numerous groups advocating a "bilingual/bicultural" approach for deaf children, and will therefore have a direct impact on many thousands of deaf students, their families, and their teachers.

## **Commonwealth Institute ADHD Project: Effects of School, Child, and Family Variables on Drug Responsiveness of Children with ADHD**

### **PRINCIPAL INVESTIGATOR:**

Singh, Nirbhay N.  
Commonwealth Institute for  
Child and Family Studies  
Department of Psychiatry  
Medical College of Virginia  
Box 489  
Richmond, VA 23298-0489  
804-371-7480

GRANT NUMBER: H023C30082  
BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

### **ABSTRACT**

**PURPOSE:** This project will utilize ecobehavioral principles and concepts, within the framework of a robust experimental design, to investigate the effects of school, child, and family variables on drug responsiveness of children with attention deficit hyperactivity disorder (ADHD).

**METHOD:** A sample of 250 children with ADHD, aged 6 to 12 years, will be enrolled in a within-subject, crossover, placebo-controlled, double-blind, dose-response study of methylphenidate, with the placebo and drug order to be

determined according to a 3 x 3 Latin square design. Following a drug-free baseline, children will be randomly rotated through placebo and two active drug conditions, according to one of three experimental sequences. Drug responsiveness will be analyzed across several variables, including academic performance and curriculum-based measures, teacher and parent ratings of social and maladaptive behaviors, child attributions of treatment effects, and side effects. Four school variables, five child variables, and four family variables will also be analyzed alongside a host of sociodemographic variables.

**ANTICIPATED PRODUCTS:** Due to the large sample size of this study, the project will be able to provide a mathematical model of drug interactions that will enable researchers to use smaller samples in future studies of this nature. The data from this study will provide the first comprehensive ecobehavioral assessment of the effects of methylphenidate on children with ADHD.

### **The Role of Social Information Processing in the Social Competence of Children with Mental Retardation**

**PRINCIPAL INVESTIGATOR:**  
Siperstein, Gary  
University of Massachusetts/Boston  
Center for the Study of Social  
Acceptance  
100 Morrissey Boulevard  
Boston, MA 02125-3393  
617-287-7250

GRANT NUMBER: H023A40051

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This goal of this project is to expand our understanding of children with mild mental retardation's (MMR) social cognitive abilities, utilizing a model of social information processing.

**METHOD:** Students with MMR currently placed in regular education classrooms will be identified, and a comparison group of students without MR will be matched on gender, age, SES, and other pertinent factors. Students will be selected from upper elementary grades. Sociometric information about the classroom will be collected for the purpose of assessing students' social status, as well as administering a social behavior rating scale to teachers in order to assess students' social behavior. Teachers will be asked to rate children on those dimensions that have been found to be related to peer acceptance/rejection, as well as reflecting the appropriate social behaviors for resolving social conflicts. Finally, staff will administer a social information processing assessment battery that will assess students' ability to encode social information, interpret social cues, generate social strategies, and evaluate the consequences of these strategies.

**ANTICIPATED PRODUCTS:** Results of this study will provide critically needed information regarding the social information processing abilities which underlie the social adaptation of children with MMR in regular education settings. An equally important product will be the determination of how these social information processing abilities relate to other critical aspects of children's social competence, their social behavior, and social relationships.

## Stress, Social Support, and Adjustment to Middle School Transition in Children with Learning Disabilities

**PRINCIPAL INVESTIGATOR:**  
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Boston, MA 02125-3393  
617-287-7250

GRANT NUMBER: H023C40155  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/98

### ABSTRACT

**PURPOSE:** The purpose of this project is to improve understanding of the stress students with learning disabilities experience during and after the transition to middle school, the social support systems they use, and the role that social support plays in the adjustment of these students to the middle school environment.

**METHOD:** Project research will focus on (1) the extent and nature of the stress students with learning disabilities experience during the first years of middle school; (2) the extent and nature of the social support students with learning disabilities receive from family, peers, and school personnel; and (3) the role that social support plays in reducing stress and facilitating the adjustment of students with learning disabilities both during and after the transition to middle school. The subjects will consist of students from the 4th grade (N=360), including 120 students identified as having learning disabilities, 120 students identified as low achievers, and 120 students identified as nondisabled average achievers. During Project Year 1, staff will select students for the 3 study groups, focusing on those students who may be exhibiting extreme behavioral problems. At this time staff will also ask teachers to complete the School Climate Inventory to assess the heterogeneity of the elementary school represented in the sample. During Project Years 2 through 4, project procedures will involve the delivery of assessment instruments to students in individual interviews and questionnaires mailed to the students' families. Staff will use interview and questionnaire results to assess both school and family climates. In following student interviews, staff will conduct a variety of stress scale tests to focus on changes in stressors the student is experiencing. In addition to formal assessment, project staff will monitor and track changes that may occur in family structure and composition, special education services for students, and changes within the school itself.

**ANTICIPATED PRODUCTS:** With the information gained by this research, educators will be able to focus not only on ways to reduce the stressors of middle school, but on ways to help students with learning disabilities manage their stress with social support. This knowledge will serve as a foundation for the development of plans and programs designed to facilitate transitions between public school environments.

## **Project FACILE (Functional Analysis and Contextual Intervention in Learning Environments)**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20040  
BEGINNING DATE: 8/01/92

ENDING DATE: 7/31/97

### **ABSTRACT**

**PURPOSE:** Project FACILE will study individualized and system-level technologies for improving the educational experiences of students with at-risk behaviors.

**METHOD:** The project will conduct a complete functional analysis, use the analysis results to determine the possible communicative function of the behavior in question, and design an intervention to replace the behavior with a prosocial response that serves the same communicative function. These assessment and intervention procedures will be systematically tested at individual and school or system levels. Normative rates of at-risk and appropriate social behaviors and social validation data will be used to evaluate the goals, procedures, and outcomes from this project. School personnel will be trained to screen for at-risk children, conduct functional analyses, and design and implement contextual interventions.

**ANTICIPATED PRODUCTS:** Training materials based on empirically validated procedures will be produced to improve practitioners' ability to develop effective intervention strategies for students with at-risk behavior and reduce potential negative outcomes predicted for at-risk students who receive inadequate systematic interventions. Students with at-risk behavior will increase their prosocial skill level, thereby reducing academic and social risks. New research-validated knowledge and understanding of effective assessment and intervention strategies will be generated. Research findings will be disseminated through a variety of professional outlets.

## **Peer Interactions of Children with Down Syndrome: Effects of Setting**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40016  
BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/95

### **ABSTRACT**

**PURPOSE:** The project will examine peer interactions of children with Down syndrome enrolled in regular education and self-contained specialized settings.

**METHOD:** Forty children with Down syndrome ages 5 through 9 will participate in this study; 20 will attend special education programs and 20 will be served entirely in the regular education classroom. Target students will be observed live, for a total of 60 minutes during recess at their school. Targeted behaviors are entry behavior, social play, peer response to entry attempts, and affect. Data will be analyzed through study of variance and correlational procedures.

**ANTICIPATED PRODUCTS:** Findings from this study will lead to increased awareness of the social competence of children with Down Syndrome and the ways they acquire and utilize their social skills for interactions with their peers in their early elementary years. Results will be presented at numerous local, state, and national conferences and through professional journal publications in the field.

### **Feasibility of Using an Outcome-Based Model to Evaluate Educational Effectiveness in The District of Columbia**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159F30004

BEGINNING DATE: 1/01/94

ENDING DATE: 6/01/95

#### **ABSTRACT**

**PURPOSE:** This project will develop an evaluation methodology linked to national efforts to establish outcome-based education for all students, including those with disabilities.

**METHOD:** Researchers will engage in an 18-month study of the feasibility of evaluating educational outcomes in the District of Columbia schools. Specifically, the State Office of Special Education will study the extent to which it can use the conceptual model of educational outcomes and indicators developed by the National Center on Educational Outcomes to develop standards for measuring educational accomplishments for students with special needs. The conceptual model developed by NCEO will be used to reorganize current data collection efforts, assist in identifying the domains, and develop the measures necessary to produce data on educational accomplishments. At the same time, the process will afford an opportunity to engage in comparative studies of results in other states.

**ANTICIPATED PRODUCTS:** A full technical report will be written that describes the development process, each feasibility activity, and the results of the overall study. The project will result in a set of procedures that can be implemented in efforts to evaluate the effectiveness of special education in the District of Columbia schools.

### **Project WRITE (Writing Integrative Tests Effectively)**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40045

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** The project will develop an educational support system for portfolio writing assessment. The system will identify the developmental stages of narration, descriptive, and expository writing, the conceptual skills necessary for achievement of each of the developmental stages, and strategies used for facilitating written language performance in regular and special education and in mainstream and culturally/linguistically diverse students.

**METHOD:** The process of developing educational support material will involve the following steps: (1) interviewing regular and special education teachers and students regarding their attitudes and understanding of the writing portfolio assessment; (2) interviewing parents regarding their understanding of the writing portfolio assessment process; (3) interviewing and observing regular and special education teachers to identify the strategies they use to facilitate writing development; (4) using interview and observational data to determine the similarities and differences in teaching writing to regular, special education, and diverse students; and (5) reviewing the literature and evaluating student writing samples to develop a chart of sequential structural and cohesive patterns that can be used to guide teachers in their evaluation and facilitation of students' writing. All the information gathered will be used to develop a resource packet and an inservice training module on writing facilitation.

**ANTICIPATED PRODUCTS:** Products will include: (1) descriptions of the developmental stages of narrative, descriptive, and expository texts and the conceptual skills that underlie the stages; and (2) a resource packet to support the teaching of the writing portfolio.

### **Project Target: Criterion-Referenced Physical Fitness Standards for Adolescents with Disabilities**

**PRINCIPAL INVESTIGATOR:**  
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716-395-2383

GRANT NUMBER: H023C30091  
BEGINNING DATE: 6/01/93

ENDING DATE: 5/31/98

### **ABSTRACT**

**PURPOSE:** The project will establish and validate criterion-referenced physical fitness test items and standards for adolescents with selected disabilities.

**METHOD:** Approximately 2,100 adolescents with sensory, orthopedic, or mentally disabling conditions will be trained and/or tested on selected physical fitness parameters. Tests to be employed will include PHYSICAL BEST, the health-related test of the American Alliance for Health, Physical Education, Recreation, and Dance Fitnessgram; and the physical fitness test of the President's Council on Physical Fitness and Sport. Findings from these tests will be used as the basis for the statistical validity of developed criterion-referenced standards. In addition, a criterion-referenced Project Target Test of Physical Fitness and a corresponding educational program for the development of physical fitness would be created.

**ANTICIPATED PRODUCTS:** As a result of project activities, four national tests of physical fitness will be made more valid, usable, and accessible for adolescents with disabilities. The project will extend the nation's current emphasis on criterion-referenced testing and programming to school-aged youngsters with disabling conditions.



## National Center on Assessment of Outcomes for Children and Youth with Disabilities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159C0004

BEGINNING DATE: 10/01/90

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project will improve the assessment of educational outcomes for children and youth with disabilities.

**METHOD:** The University of Minnesota will establish a center that will focus on six major activities: (1) engage in ongoing characterization of outcomes assessment practices in special education on a state-by-state basis; (2) develop a conceptual model for a comprehensive, national system of outcome indicators (CSI); (3) identify and implement procedures for information exchange about the developing CSI system; (4) identify, prioritize, and generate solutions to technical and implementation issues in evaluating state and national outcomes; (5) design and implement an ongoing strategic planning process for advancing development of the CSI; and (6) identify and conduct analyses on extant databases that correspond to the conceptual framework of the CSI. The approach will be interdisciplinary, and there will be networking both within the Center and among the Center, educators, and the disability community.

**ANTICIPATED PRODUCTS:** A National Center on Assessment of Outcomes for Children and Youth with Disabilities, established at the University of Minnesota, will enable the development of a comprehensive system of outcome indicators to proceed in a systematic way to address the needs of all stakeholders and to integrate the system into training, research-related activities, and national dissemination efforts.

***SECTION 2:***

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***CULTURAL  
DIFFERENCES***



**Promoting Literacy Through Ecobehavioral  
Assessment and Class-wide Peer Tutoring for Racial/  
Ethnic Limited English Proficient Minority Students  
with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40064

BEGINNING DATE: 6/01/94

ENDING DATE: 7/31/97

**ABSTRACT**

**PURPOSE:** This project will investigate and validate instructional practices that will maximize the literacy and academic achievement gains of racial and ethnic limited English proficient (LEP) minority and majority students with disabilities in self-contained, resource, and regular education settings.

**METHOD:** Staff will utilize ecobehavioral assessments and analysis procedures as a research tool for identifying procedures associated with effectiveness criteria, and evaluating Class-wide Peer Tutoring (CWPT) as a research tool for LEP students with or without disabilities. The first of five project studies will utilize ecobehavioral assessment procedures to facilitate literacy and academic progress in mainstream regular and special education classrooms. A total sample of 180 students will be selected for classroom observations that will be divided among self-contained, resource room, and regular education settings. Measures used will include demographic measures, process measures, and product measures. During Year 2, staff will conduct Studies 2 and 3 in order to evaluate the effectiveness of CWPT as an instructional procedure that facilitates literacy and academic progress. In each treatment group, 2 students will receive tutoring in reading, 2 in spelling, and 2 in math. Data will continue to be collected on the literacy, academic and language performance as a reflection of CWPT procedures. Study 3 will replicate Study 2 findings using a larger sample of students. During Year 3, staff will conduct Study 4, in which 24 students without disabilities will serve as partners in tutoring target students in reading, spelling, and math. At this time, staff will also conduct Study 5 to verify procedures from Study 4, refine those procedures, and implement CWPT to a new population, and the translation of research to practice.

**ANTICIPATED PRODUCTS:** This project will result in new knowledge concerning the ecobehavioral features of instruction, systematic replication, adoption of an effective instructional procedure (CWPT) to a new population, and the translation of research to practice.

## **Parental Involvement in Literacy Instruction: Perceptions of Hispanic Parents of Children with Learning Disabilities**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40022  
BEGINNING DATE: 8/15/94

ENDING DATE: 8/14/95

### **ABSTRACT**

**PURPOSE:** This project will investigate the perceptions and practices of limited English proficient (LEP), Hispanic parents of children with learning disabilities (LD) with respect to home-based literacy instruction.

**METHOD:** Phase I of the study will include individual interviews about home literacy instruction with Hispanic parents of LEP children with LD. Subjects will include LEP Hispanic parents of children in grades 3 through 5 from three elementary schools with high LEP enrollments. Phase II will involve case studies of one parent of an LD child, one parent of a child who has been identified as low-achieving, one parent of a child who is considered average-achieving, and one parent of a high-achieving child. In-depth case studies using qualitative-methodology will be conducted. Researchers will explore what home literacy activities LEP Hispanic parents of children with LD perceive as desirable and feasible, and what they see as facilitators and/or barriers to performing home literacy activities. Attitudes and practices of LEP Hispanic parents will be compared to home literacy instruction practices and perceptions among other groups of parents of children with and without LD.

**ANTICIPATED PRODUCTS:** Benefits resulting from this study will include a better understanding of: (1) language minority parents' perceptions and practices related to home literacy instruction of children with learning disabilities; (2) the ways perceptions of language minority parents of students with LD differ from parents of low-achieving, high-achieving, and average-achieving students; (3) how LEP parents can be involved effectively in the literacy instruction of their children; and (4) the barriers and facilitators that influence types of home literacy activities LEP parents conduct.

## **Comprehensible and Comprehensive Instruction for Language Minority Students with Learning Disabilities**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40035  
BEGINNING DATE: 6/01/94

ENDING DATE: 5/31/95

### **ABSTRACT**

**PURPOSE:** This project will build a knowledge base of information pertaining to improving the academic abilities of language minority students with learning disabilities.

**METHOD:** The study will focus on language minority students in grades 3 through 6, and will include those currently receiving special education services.

those involved in the prereferral process, and those considered by their teachers to be at risk for referral to special education. The intervention will implement practices associated with effective learning of language minority students experiencing learning difficulties such as: use of graphic depictions of text structure, metacognitive strategies, and "think alouds." Integration of quality children's literature, culturally-congruent instructional techniques, and students' primary language will be a prominent feature of this research. Student data will be analyzed using a combination of qualitative and quantitative analysis techniques. The amount of time allocated to various teacher-student interactions and language use will be calculated using a quantitative observational instrument.

**ANTICIPATED PRODUCTS:** At the conclusion of this project, staff will have a disseminable model to assist a school level team consisting of special educators, regular classroom teachers, and bilingual/ESL teachers in meeting the needs of language minority students with mild disabilities. Three practitioner-oriented papers will be produced as a result of this project, as will model lessons, guidelines, and workshops.

### **National Center for Minority Special Education Research and Outreach**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H029T10007

BEGINNING DATE: 1/01/92

ENDING DATE: 12/31/95

#### **ABSTRACT**

**PURPOSE:** The overall goal of the Center is to increase the capacity of colleges and universities serving minority students to be competitive in developing proposals and seeking and obtaining discretionary funds.

**METHOD:** The Center's approach will focus on four major areas: (1) promotion and support of infrastructural change that will sustain increased capacity to seek and obtain funds; (2) promotion of technical assistance activities for interdisciplinary collaborative teams that will support submission of proposals for research, model development, and dissemination projects; (3) development and support of a model for long-term protege-mentor relationships to provide training and support to participating faculty; and (4) dissemination of information that will support systemic change to increase the production of research, model demonstration, and dissemination projects and proposals.

**ANTICIPATED PRODUCTS:** Through this program, historically black colleges and universities and other minority institutions will show an increased capacity to be competitive in developing proposals and seeking and obtaining funding. A congressionally mandated dissemination unit will be established, to include a clearinghouse devoted to minority special education research, model development, and related activities and issues. The clearinghouse will produce and disseminate a newsletter, reviews, and position and research papers, while the Center itself will provide training workshops and related services to Center staff, mentor/consultants, participants, and multidisciplinary teams.

## **Transition from School to Work and Community Living: Asian-American Students with Disabilities and Their Needs in Transition**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N40016

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### **ABSTRACT**

**PURPOSE:** The project will investigate parents' expectations and students' needs for transition among students with developmental disabilities across six ethnocultural subgroups.

**METHOD:** Ethnocultural subgroups of Asian-American students will include Chinese, Filipino, Japanese, Korean, Vietnamese, and other Asians. The project will study the level of their awareness of available transition services. The project will also provide information about parent and student rights and available transition services in their own language. It will equip education professionals with important information for appropriate and effective transition planning, reflecting a child's cultural values, future employment preferences, and living arrangements. Ten families of Asian-American students between 16 and 22 years of age from each subgroup will be recruited from six school districts and through public announcements on ethnocultural radio and television broadcasting systems in the greater Los Angeles area. Community leaders from the six highlighted ethnocultural subgroups will be invited to take part in dissemination activities. A secondary demographic data analysis will be conducted, followed by a study of parents' expectations and needs in transition using interview and survey methods.

**ANTICIPATED PRODUCTS:** A brochure in six different Asian languages, technical reports, and peer-reviewed journal articles will be prepared as final products of this project.

## **Proactive Schooling: Preventing Dropout in Highest Risk Adolescents**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023K00011

BEGINNING DATE: 9/01/90

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to develop, implement, and evaluate the effectiveness of a comprehensive school-based dropout prevention program targeting highest risk, lowest achieving Hispanic adolescents who have learning disabilities and serious emotional disturbances.

**METHOD:** All students will come from a junior high school in the Los Angeles Unified School District. The intervention will consist of a multifaceted program focusing on four spheres of influence on student achievement and school continuance. Students' social and task-related behavior will be remediated with

a previously tested social metacognitive problem-solving training program. Parents' lack of school participation and infrequent joint decision making with their adolescents will be remediated through parent training of these skills. Teachers' infrequent feedback to at-risk students will be remediated by having teachers provide weekly and bi-monthly reports to students and parents. The students' alienation and lack of bonding with the school will be remediated through specific student-student and adult-student bonding activities. The students' high truancy rates will be remediated through school period-by-period attendance monitoring. The design will be an experimental-control group contrast using three methods of analysis: quantitative, ethnographic, and cost-effectiveness.

**ANTICIPATED PRODUCTS:** Dissemination activities will include annual newsletters, presentations at national and state conferences, articles in professional journals, a book, and several handbooks describing guidelines and strategies for implementing the interventions.

### **Accessibility to and Utilization of Intervention Services in the First 6 Years: A Longitudinal Study of African- American Families and Services and Service Agencies**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40083

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

#### **ABSTRACT**

**PURPOSE:** The project will examine the factors that influence early intervention service accessibility and utilization within African-American families with children who are developmentally disabled.

**METHOD:** This research is based upon a conceptual framework that links service utilization to three major components: the personal, familial, and cultural characteristics of potential users, dimensions of the service delivery system, and the socio-political context within which service delivery and utilization take place. The first of two longitudinal components entails a survey of early intervention and related service agencies, designed to obtain data on: (1) the representation of African-American families in intervention programs; (2) agency policies and actions regarding the recruitment of families from underserved populations; and (3) policies and practices regarding the delivery of culturally sensitive and appropriate services. The longitudinal design will enable the research team to ascertain changes occurring in all three areas over the 3-year period of the study. The second component entails a study of the intervention experiences of African-American families of children with disabilities during the first 6 years of the child's life. The design for this component encompasses two cohorts of families (45 in each), one with children in the birth to 3-year range and the other in the 3- to 6-year range. Qualitative analyses will provide a holistic context for understanding responses to the various scales and questionnaires, while quantitative analyses will be used to explore the extent to which relationships implied in the conceptual model can be validated statistically. Analysis will also include determination of the appropriateness, reliability, and validity of the various measures employed in the study so that the study's underlying conceptual model can be subjected to rigorous empirical testing in subsequent work.

**ANTICIPATED PRODUCTS:** Through this project, researchers will learn the extent to which existing early intervention and other related services are accessible to African-American families of children with developmental disabilities, identify barriers to service accessibility and utilization, and draw implications for policy, practice, and future research.

## **Influences Affecting Southeast Asian Perceptions of Special Education in the U.S.**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A30064

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This study, focusing primarily on Cambodians, will examine the following research questions: (1) What are the cultural and historical variables that influence individual parents' and teachers' perceptions regarding children with disabilities and special education intervention in American schools? (2) What are the commonalities and unique characteristics that affect both positively and negatively the learning processes of Cambodian students with disabilities? and (3) How do the learning/teaching strategies for Cambodians with disabilities differ from those for other language minority students?

**METHOD:** Project staff will collect data from Cambodian teachers and parents about their beliefs and perceptions regarding children with disabilities and special education. Collected data will then be analyzed, synthesized, and interpreted to better understand Cambodian parents' beliefs regarding special education intervention and its effects on their children's education. A survey packet will be developed to measure these variables and will be applied in Lowell, Massachusetts. Two parents and two teachers will be selected as case studies representative of negative and positive perceptions. Profiles of one elementary school, one middle school, and one high school will be constructed using building personnel.

**ANTICIPATED PRODUCTS:** Findings will be disseminated to concerned researchers and educational institutions at local, regional, and national levels who are interested in improving programs and services for Southeast Asians students with disabilities in general, and Cambodians in particular. Findings will be submitted to educational journals for publication and will be presented at local, state, regional, and national conferences.



## **Project SERVE LD: Successful Early Recognition of Variables in the Evaluation of Learning Disabilities**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30010

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** This project will attempt to reduce the theory-practice gap in identification of and preparation of remediation plans for students with learning disabilities by analyzing the decision process and identifying the salient variables that ultimately result in final diagnosis and interventions for teachers, resource specialists, and psychologists working with children with learning disabilities.

**METHOD:** Beginning with stated definitions and policies for disability determination and the development of treatment plans, the project will study what actually happens in practice for approximately 10,000 African-American, Asian, Caucasian, Filipino, Latino, Indochinese, and Native American children who will be referred and evaluated for all types of learning disabilities in the diverse San Diego city system. Through regression analysis, factor analysis, and discriminant analysis applied to approximately 100 variables per child, the program will analyze the decision process, determine the variables that are actually employed to qualify a child as learning disabled, describe the characteristics of children referred for, but not qualified as learning disabled, summarize the process of developing treatment recommendations, and examine how treatment plans are implemented.

**ANTICIPATED PRODUCTS:** Information gained through this study will be systematically communicated to teachers, resource specialists, psychologists, administrators, and parents in order to have an immediate positive impact in streamlining the process of learning disability determination and the development of treatment plans. Findings will be further disseminated via reports to school administrators and parents in communities involved, through a monograph to be developed and sent to local, state, and national agencies and to researchers in the field, through symposia presentations at professional conventions, and through publications in major journals.

**Ecobehavioral Assessment, Class-wide Peer Tutoring,  
and Racial/Ethnic Minority Students with EMR:  
Validation of Academic Engaged Time, IEPs, and  
Achievement**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20145

BEGINNING DATE: 7/01/92

ENDING DATE: 6/30/95

**ABSTRACT**

**PURPOSE:** This project will investigate instructional practices that will maximize the academic progress of racial/ethnic minority and majority students with and without mild mental retardation in elementary school environments, including self-contained, resource room, and regular education settings.

**METHOD:** This research will involve three studies. The first will employ ecobehavioral assessment procedures to measure the classroom environment and determine natural ways to facilitate academic progress in racial/ethnic/minority and majority students with mild retardation. The second will examine relationships between ecological assessment data, academic engaged time, specified objectives in IEP's, and scores on standardized achievement and curriculum-based assessments. The third study will investigate the effectiveness of class-wide peer tutoring as an instructional procedure leading to an improvement in students' academic behaviors during reading, spelling, and math instruction. Collectively, these studies will describe, test, and validate the effective components for the academic instruction of elementary-aged racial/ethnic minority and majority students with mild retardation.

**ANTICIPATED PRODUCTS:** The benefits of this work will be: (a) new knowledge concerning the ecobehavioral features of instruction; (b) systematic replication; (c) adoption of effective instructional procedures to a new population; and (d) translation of research to practice. Results will be disseminated to teachers and students in the metropolitan Kansas area, reported to professionals and teacher-trainers at state and national conferences, and submitted for publication in refereed journals.



***SECTION 3:***

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***INFANTS,  
YOUNG CHILDREN,  
AND FAMILIES***

## A Longitudinal Study of Young Children with Fragile X Syndrome and Their Families

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30081

BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/98

### ABSTRACT

**PURPOSE:** This project will conduct a longitudinal study of the development of at least 100 boys with Fragile X syndrome between birth and 72 months of age.

**METHOD:** Using growth curve analysis, the project will characterize developmental patterns and document the attainment of key developmental milestones in five domains: cognitive, communicative, social, adaptive, and motor skills. The project will also document stability and change in temperament and behavioral characteristics. Interviews and surveys will be used to describe unique family contexts among subject children. A final component of the study will determine clinicians' perceptions of the unique learning styles and instructional or therapeutic strategies needed for young children with Fragile X syndrome.

**ANTICIPATED PRODUCTS:** The project hopes to provide a foundation for future proposals including a longitudinal life span study of persons with Fragile X syndrome and their families, as well as other research linking biological and environmental factors to developmental outcomes. Dissemination efforts will include promotional brochures, a monthly newsletter, curriculum materials, and handbooks.

## Integrated vs. Isolated Treatment in Early Intervention: A Controlled Longitudinal Comparison of Treatment Models

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023CY00156

BEGINNING DATE: 10/01/90

ENDING DATE: 6/30/95

### ABSTRACT

**PURPOSE:** This project will study the relative merits of integrated treatment and isolated treatment in early intervention.

**METHOD:** Children with developmental disabilities at a university-based mainstreamed child care facility will be randomly assigned to one of the treatment conditions. The subjects will be followed for 1 to 4 years. Additional sites will be used to test the replicability of the design in the second, third, and fourth years.

**ANTICIPATED PRODUCTS:** The results of this study will provide teachers, administrators, and policy makers with the information needed to guide them in the most effective model for delivering occupational therapy, physical therapy, speech and language therapy, and special education.

## Age of Peers and Its Effects on the Social Interactions of Preschoolers with Disabilities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20168

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** This project involves a 5-year series of studies that will investigate the extent to which age of peers influences the development of social skills among preschoolers with disabilities.

**METHOD:** In the first 2 project years, 80 3- and 4-year-olds with mild disabilities will be paired with four different play partners for two play sessions each. Sessions will be analyzed for level, complexity, and nature of social interactions. The second series of studies will examine whether or not repeated opportunities for dyadic play with a younger child improve generalized social skills of 4-year-old children with disabilities, as has been observed to be the case with nondisabled children with low rates of social interaction. Thirty 4-year-olds with mild disabilities will be randomly assigned to dyadic play with a same-age peer, dyadic play with a younger child, or a control group.

**ANTICIPATED PRODUCTS:** These studies will increase understanding of how peers influence social interactions of young children with disabilities. Important information on the need to consider peer characteristics when designing early intervention programs to promote social competence will result. Project findings will be disseminated through journal publications, presentations at conferences, and development of guidelines for teachers in child care settings serving young children with disabilities.

## The Effect of Flexed Positioning on Positive and Movement of Premature Infants

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GRANT NUMBER: H023B30003

BEGINNING DATE: 8/01/93

ENDING DATE: 1/31/95

### ABSTRACT

**PURPOSE:** This study will follow 10 premature infants involved in a formal flexed positioning program to monitor the effects of positioning on their ability to actively achieve flexion in prone positions and in their kicking patterns.

**METHOD:** The 10 subject premature infants and 10 premature infants not participating in the program will be monitored during their hospitalization in the neonatal intensive care unit to determine their ability to assume a flexed posture when placed in a prone position. Each infant will be videotaped every third day from 32 weeks of gestation to discharge, in addition to having their kicking patterns videotaped and analyzed. Specific kinematic variables will be compared between subject groups through the use of the PEAK performance motion analysis system.

**ANTICIPATED PRODUCTS:** The study will provide information on prevention of nursery-acquired differences in motor development, which may eventually serve as early indicators of delayed development or motor dysfunction. Promoting flexion postures during the first weeks of life may also prevent long-term effects on childrens' motor development.

### **Defining Social Mastery Motivation in Young Children with and Without Disabilities**

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GRANT NUMBER: N23B40011

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to further define the construct of social mastery motivation.

**METHOD:** Methods employed will assess how the Observation of Social Mastery (OSM) coding system, developed by Dr. Susan Hupp and her research associates at the University of Minnesota, relates to other process-oriented and skill-oriented measures associated with social competence in young children with and without disabilities. Phase I will involve videotaping 40 children at each of two 20-minute time periods, a snack time and an indoor freeplay situation. Each videotaped session will be coded using the OSM coding system, and interobserver reliability will be determined for some sessions for each group. Phase II involves distributing additional measures chosen for this study, including a coping inventory, a social skills rating system, and a social competence scale. In Phase III, three statistical procedures will be employed to accomplish the stated objectives. The OSM codes will be used as independent variables to distinguish between the two groups of subjects using a discriminant function for each group.

**ANTICIPATED PRODUCTS:** A tangible benefit of developing the definition of social mastery motivation will be the addition of validity to the OSM as a descriptive tool. The OSM, in turn, will aid educators and other personnel involved with children with and without disabilities in designing more individualized and effective instructional strategies and instructional environments for fostering social success.

## Parent-Child Interaction Systems: A Long-Term Evaluation

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N30023

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will use an existing parent-child interaction data set to improve the usefulness of parent-child interaction scoring systems and to further the knowledge of the nature and effects of the mother-child interaction.

**METHOD:** In addition to identifying parent and child behaviors that correlate with measures of child development, research will identify parent and child characteristics and parents' perceptions of stress, social support, and resources that best correlate with parent interaction behaviors. After the existing data set has been coded to measure both mother and child behavioral dimensions in order to examine the bidirectionality of the interaction, a number of analyses will be performed including: a factor analysis to determine factor structures of all relevant systems, analyses to demonstrate criterion and predictive validity, and analyses to establish the relationship between the variables set forth in project objectives. The stability and change within dyads of parent-child interaction will further be examined over time.

**ANTICIPATED PRODUCTS:** By establishing criterion-related and predictive validity of coding systems employed, staff will enable clinicians, practitioners, and researchers to better choose and employ the coding system best suited to their needs. A monograph will be produced by project staff and consultants during the final year. Summaries of findings will be disseminated through a newsletter and computer bulletin boards.

## An Analysis of the Effectiveness of Staffing Patterns for Young Children Attending Natural Group Environments for Early Intervention

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30072

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will examine the effects of different service delivery structures on the development of toddler-age children with disabilities (and their families) receiving early intervention within natural group environments.

**METHOD:** The study will compare four different service delivery structures within natural group settings with toddler-age children with disabilities receiving services under the Department of Mental Retardation. Children will be assigned staff and services through the Individualized Family Service Plan (IFSP) process. The four service delivery structures to be evaluated will include: (1) a full-time teacher within the group environment the entire time the child attends and therapy (as needed) delivered within the group environment; (2) a full-time teacher

within the group environment the entire time the child attends and therapy delivered (as needed) outside the natural group environment; (3) a teacher attending the natural group environment at least once a week for consulting purposes and therapy delivered (as needed) within the natural group environment; and (4) a teacher attending the natural group environment at least one time a week for consulting purposes and therapy delivered outside the natural environment. Evaluation of these service structures will occur on a 3-month basis during a 12-month enrollment period for each child.

**ANTICIPATED PRODUCTS:** The project will expand the current knowledge base on the effects of receiving early intervention in natural group environments in a number of ways. Findings will be presented at state, local, and national conferences, and articles and descriptions of service delivery practices will be prepared for journals and newsletters. Research monographs will be generated on methodology and findings, and training manuals will be prepared on service delivery practices found to be effective.

### **Teaching Vocabulary Comprehension Concepts in Preschool Physical Education to Children with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B20009

BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This study will teach selected vocabulary concepts within a physical education setting to preschool children with impairments in cognitive, motor, social, and/or communication development.

**METHOD:** The program will facilitate understanding of cognitive concepts by emphasizing comprehension concepts within the context of a 12-week motor skills intervention. Children aged 3-6 from three populations will participate, including preschool children receiving special education, children in Head Start, and typically-developing preschoolers. Students will be randomly assigned to either of two conditions: (a) a motor skills intervention with emphasis on vocabulary concepts in which instructional activities will be designed to emphasize selected comprehension concepts; and (b) a control group consisting of a motor skills intervention with similar physical education lessons but no specific focus on comprehension. While lessons will be presented in a group, pre-, post-, and follow-up testing will be done in an individual setting, and test data will be combined with videotaping of lessons sessions for the evaluation stage.

**ANTICIPATED PRODUCTS:** An instructional model will result that can be used in other curricular activities to further enhance the education of preschool children with disabilities. Since children from three populations have been included and interventions have been designed to be consistent with existing physical education curricula, results should both have wide implications and be relatively easy for other teachers and schools to adopt.

## Efficacy of Early Intervention: Long-Term Effects

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C00062

BEGINNING DATE: 10/01/90

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project will assess long-term effects of early intervention with a group of 750 infants and toddlers who had been identified as retarded and developmentally at risk and who participated in the Family, Infant, and Preschool Program (FIPP) in Morganton, North Carolina, from July 1, 1972, to July 1, 1988: these children are now between 10-15 years old.

**METHOD:** The project will employ a conceptual framework and analytic methodology that permits both a more explicit definition of efficacy and the adoption of a paradigm that allows the identification of the determinants of behavior change.

**ANTICIPATED PRODUCTS:** The research will produce a database containing the following types of information: defined variables related to the effects of early intervention and findings that could be used for policy and placement decisions. Other outcomes will be a monograph summarizing the research, presentations at conferences, and publications in newsletters and journals.

## Differential Characteristics and Effects of Family-Oriented Approaches to Early Intervention

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GRANT NUMBER: H159A30005

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project will operationally differentiate among at least three family-oriented approaches to early intervention, and will relate different family-oriented early intervention approaches to differences in child, parent, and family functioning.

**METHOD:** Two studies will be conducted over a 2-year period. The first study will focus on the characteristics that differentiate among programs with respect to family-oriented approaches to early intervention and the effects related to the different approaches. The second study will be an in-depth investigation of a subsample of programs in which interviews, case studies, and other quantitative and qualitative methods of data collection and analysis are employed to discern the relationships found in the first study.

**ANTICIPATED PRODUCTS:** Journal and chapter articles detailing study findings will be published, and presentations will be made at national, state, and local conferences. Articles of interest to early interventionists and parents will be published, and study results will be disseminated through ERIC and other national clearinghouses.



## A Longitudinal Study of Developmental Patterns of Children Who Are Visually Impaired

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C10188

BEGINNING DATE: 6/01/92

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This study will examine the sequence and rate of development of children, ages birth to 6, who are blind or visually impaired. Measures of visual acuity, behavior, temperament, and environment will be obtained in an effort to determine first, if there are differences between development of blind and sighted children and if there are, what variables might be identified as predictors or correlates to development.

**METHOD:** This longitudinal study will be accomplished through a collaborative effort of Teachers College, Columbia University, and a national consortium of six service providers that will be established to cooperate in the collection of data. An assessment battery will be selected by the project Technical Advisory Committee, which will cross the three domains of child variables (such as developmental quotient, visual acuity, and health status), family variables (such as socioeconomic status, demographics, and mother-child interaction), and program variables (such as home vs. hospital, support services, and curriculum). Project staff will conduct training of two project evaluators from each participating program who will collect data in their programs. Subjects will be children with visual disabilities who are referred to and served by the programs participating in this study; it is foreseen that the study will include a sample size of 300 children per 1-year cohort. Yearly analyses will be conducted of the regarding patterns emerging in the three sets of variables, their interaction, and their influence on child competence and family adaptation. The normative data collected in this study will be analyzed by measures of central tendency, factor analysis, and discriminant analysis.

**ANTICIPATED PRODUCTS:** Annual data will be pooled with previous data and reported to the field by means of project reports. Dissemination efforts will include these annual reports, journal articles, and a final report.

### Research on Treating Aggression in Young Children

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N40039

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** The project will systematically replicate and extend the findings of a pilot investigation, in which the rate of aggression across four children decreased to or at normative levels through the use of observational learning of high status peers, individualized training scripts, and a self-evaluation paradigm.

**METHOD:** Staff will develop an observation system and a computerized system of situation descriptions. Replication studies of pilot research will then be conducted, followed by two additional studies with Native American subjects.



In a small group setting, children will watch high status peer models discriminate between positive and negative examples of social interactions, state positive alternatives to aggression, and practice positive social interactions using puppets. Following study of peer models, subjects will practice these same responses and will be tested with novel scenes for knowledge acquisition. Following training, the effects of a self-peer-teacher evaluation procedure to enhance generalization from training settings to observational settings will be tested.

**ANTICIPATED PRODUCTS:** This research will create a training methodology which will: (1) reduce the probability of young children being placed in special education and support friendships and long-term inclusion in general class settings; and (2) reduce aggressive behaviors in young Native American children attending tribal public school, day care, and/or Head Start. In addition to dissemination of the computer program, observation system and training package, findings will be disseminated via a series of journal articles and conference presentations as well as a final report for the funding agency.

### **Cognitive Mediators of Mother-Child Interaction: The Parental Beliefs, Attitudes, and Perceptions of Infant Temperament of Substance-Exposed and Substance-Free Mothers**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40047

BEGINNING DATE: 7/01/94

ENDING DATE: 12/31/95

#### **ABSTRACT**

**PURPOSE:** The project will develop suggestions for designing more appropriate interventions with substance-using mothers that best match the unique cognitive demands of substance-abused children.

**METHOD:** The study plans to collect data on the beliefs about child development, attitudes toward child-rearing and discipline, and perceptions of infant temperament of substance-abusing mothers as contrasted with those of substance-free mothers from similar socioeconomic and demographic backgrounds. Data on these maternal cognitions, quality of mother-child interaction, and infant-developmental status of 60 substance-exposed and 60 substance-free mother and their infants will be collected in the neonatal period and 6 to 9 months post delivery. Multivariable regression and ancova procedures will be used to determine if significant differences exist between the cognitions and behavior of the substance-exposed and substance-free mothers and to further explain the relationship between maternal cognitions and maternal interactional behavior.

**ANTICIPATED PRODUCTS:** This study will provide important information about the cognitive framework of substance-exposed mothers, thereby allowing for more accurate and complete guidelines for designing interventions to match the special needs of the substance-using mother.

## Early Intervention Benefit/Cost Longitudinal Study

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20066

BEGINNING DATE: 7/01/92

ENDING DATE: 6/30/97

### ABSTRACT

**PURPOSE:** This project will provide credible evidence on the benefits and costs of early intervention programs, including programs that vary by intensity, the degree of parent involvement, and age at start.

**METHOD:** Data will be examined from a benefit-cost follow-up study of 430 children with a variety of disabilities including visual impairments, intraventricular hemorrhage, medical fragility, and others who received early intervention from the Early Intervention Research Institute from 1985-1990. Subjects were randomly assigned to control and experimental groups where both groups of children received treatment. Experimental treatment either began earlier, was more intensive, or added a parental involvement component in addition to the control services. By following both groups of students longitudinally, the study will estimate benefits to families and society that result from the early intervention received.

**ANTICIPATED PRODUCTS:** By comparing dollars spent with dollars saved, this project will provide a perspective previously unavailable in the field of early intervention for children with disabilities and will help to answer questions regarding which early intervention programs serve children and the community best.

## Prevention of Antisocial Behavior Patterns Among Children Grades K-3

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237B20024

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will develop, evaluate, and disseminate a model program for the early identification and primary prevention of conduct disorders and antisocial behavior patterns in kindergarten-level children.

**METHOD:** The project will consist of four phases of approximately 1-year's duration each, as follows: (1) Feasibility Study; (2) Intervention and Longitudinal Tracking; (3) Replication and Longitudinal Tracking; and (4) Longitudinal Tracking and Follow-up. The model intervention program to be developed will have a dual focus on direct child intervention and family support and intervention. A state of the art early intervention program will be developed for delivery by school-based consultants and a model family support component will also be developed focusing on: (a) improving target parents' effective parenting practice; and (b) accessing needed services available from community and state social service agencies.

**ANTICIPATED PRODUCTS:** The components of this model program will be packaged in year 4 and selected key school district staffs in the state of Oregon will be trained in them. The final package will be broadly disseminated to the field and

made available to professionals for the cost of reproduction and mailing. Training and technical assistance to potential model program adopters will be negotiated as appropriate with interested school districts and programs.

### **Programming Integration of Preschoolers (Project PIP): Developing Peer Relationships Between Children with and Without Developmental Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C10167

BEGINNING DATE: 7/01/91

ENDING DATE: 6/30/96

#### **ABSTRACT**

**PURPOSE:** This study will investigate the effects of interventions designed to enhance social-communicative interaction among preschoolers with developmental disabilities.

**METHOD:** At least 40 preschoolers with developmental disabilities and an equal number of classmates who are not disabled will participate. Exchange theory will be applied to analyzing interaction patterns and to generating strategies for modifying interaction patterns to produce more acceptable outcomes for social partners and lessen the desire to terminate interactions and relationships. Some basic characteristics of peer-mediated intervention tactics will be modified, such as spreading interventions across the day, rather than conducting concentrated training sessions. Interventions will involve: (1) teaching typical peers to use ecobehaviorally-derived strategies for interaction with their disabled classmates; (2) teaching fundamental social skills to children with disabilities; and (3) a treatment package based on the functional components of these interventions. In addition, longitudinal effects will be monitored and investigations of intervention components that appear necessary to ensure that children with disabilities continue to interact with typical classmates and develop peer relationships in subsequent educational placements will be conducted. Single-subject experimental designs will be used to evaluate outcomes. The effects of intervention will be assessed with observational, sociometric, and teacher and parent rating measures. In addition to analyses of changes in the rates of social behavior demonstrated by children, conditional probability analyses of sequential data will be used to continue the process of identifying strategies that prove particularly effective in promoting sustained interaction.

**ANTICIPATED PRODUCTS:** The experimental procedures developed and validated in the studies will form the basis for two training manuals on: (1) daily intervention to promote constructive social-communicative interaction in integrated preschools, and (2) facilitating social adaptation of children with disabilities during transitions from preschool. Dissemination efforts will include publication of training manuals, research papers, papers focusing on the clinical procedures, and training workshops for practitioners.

## **Longitudinal Assessment of Emerging Behavior State Patterns Among Infants and Children with Severe and Profound Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30029

BEGINNING DATE: 8/01/93

ENDING DATE: 7/31/98

### **ABSTRACT**

**PURPOSE:** This project will systematically investigate changes in state during the first few months and years of life, and will identify variables and conditions that potentially impact the emergence of various state organization patterns.

**METHOD:** A longitudinal research design will measure state behavior across early months and years of life among 25 infants at high risk for profound and severe disabilities. Additionally, a General Systems Theory approach will be adopted to investigate the process of emerging state patterns in relation to other interacting variables such as: levels of cognitive, motor, and social development; quality and frequency of rhythmic patterns; communicative skills; social interactions with caregivers; and medical interventions and health status.

**ANTICIPATED PRODUCTS:** Results of this research will provide intervention programs with important information for assisting in the development of more stable and adaptive state patterns in persons with profound and multiple disabilities. Findings from the project will have additional implications for the assessment and treatment of traumatic brain injury, and the behavioral changes and physical losses associated with aging.

## **The Impact of Federal Policy and Resulting Legislation on Family Systems**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C10103

BEGINNING DATE: 12/15/91

ENDING DATE: 12/14/96

### **ABSTRACT**

**PURPOSE:** This project will study how early intervention provided to infants and toddlers impacts families, and specifically, how families perceive these services. The study will examine three assumptions: (1) families need and welcome these services and supports; (2) early interventionists know how to validly assess family needs and develop programs to meet them; and (3) these services will enhance the developmental potential of infants and toddlers who are disabled or at risk.

**METHOD:** Researchers will collaborate with the University of Oklahoma Medical Center in the early identification of approximately 36 families of neonates who are at significant risk due to genetic/congenital conditions, birth trauma or prematurity, and/or combinations of maternal risk factors (e.g. age, substance abuse, AIDS, etc.). Over a 5-year period, qualitative methodologies will be used to probe the perceptions and experiences of parents (and when appropriate, siblings) of infants, toddlers, and preschoolers. Twelve families will be identified

in year 1 and followed over 3 years. Twelve new families will be added each of the first 3 years. A total of three intensive, audiotaped interviews will be conducted per year for each family, including interviews conducted with a significant other outside the family, but involved in the family system in order to triangulate the data collected. The first interview will be designed to probe the issues of: (1) initial communications with professionals from a variety of disciplines; (2) transitions from hospital to home; (3) contacts from and referrals to additional services and resources; (4) realizations and adjustments to the infant's needs; (5) self-perceptions and coping; and (6) perceptions of assistance received from professionals and interpersonal networks. Follow-up interviews will further document the nature of services, supports, and/or resources provided to or sought by the families.

**ANTICIPATED PRODUCTS:** Products will include five annual research reports, a final monograph, book, and field guidelines for parent involvement in early intervention.

### **Effects of Parents' Commenting When Reading to Their Children with Developmental Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANTNUMBER: H023B30013

BEGINNING DATE: 9/01/93

ENDING DATE: 11/30/95

#### **ABSTRACT**

**PURPOSE:** This study will determine if training parents to comment while reading to their children with developmental disabilities can increase communicative interaction in parent-child dyads.

**METHOD:** Six children with developmental disabilities and their parents will participate, with an emphasis on inclusion of parents and children of low socio-economic status. Parents will be taught to comment on the literary content of a book in a way that relates events and characters in the story to the child's own experiences. A multiple baseline across subjects with an embedded withdrawal design will be utilized to evaluate effects of intervention on parent-child interactions.

**ANTICIPATED PRODUCTS:** Intervention is expected to result in increased responses by the children to parents' comments, more frequent initiation of comments by children, and more frequent responses to children's initiations by parents. In addition to the basic bedtime reading context, generalization to parent-child interactions in play settings will also be examined. These changes in interaction patterns during book reading are expected to provide improved opportunities for language learning and language use by children with developmental disabilities, as well as increased exposure to early literary experiences.



## Facilitation of Intersubjectivity to Remediate Language Delay of Preschool Children with Mental Retardation

### PRINCIPAL INVESTIGATOR:

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GRANT NUMBER: H023C20077

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This 4-year project will investigate the effectiveness of interventions to facilitate language development of toddlers and preschoolers with mental retardation. The premise underlying the six studies in the project is that intersubjectivity must be established in order for the child with disabilities to utilize the verbal and nonverbal information from others with whom he or she interacts. The project will describe and test experimental efforts to facilitate the establishment of joint referential states for communicative exchanges.

**METHOD:** The studies will examine both descriptively and experimentally the integration of cognitive, affective, social, communicative, and language skills during the first 5 years of life. In Study 1, extant videotapes from at least 200 mother and infant dyads (infants ranging in mental age from 10-18 months) will be coded in real time to indicate their attentional state vis-a-vis both objects and their mothers. The development of joint attentional state will be described from this cross-sectional sample of young children in comparison to published reports on normally developing children. Seventy-six children will be involved in the remaining five longitudinal experimental studies. Studies 2, 3, and 4 will utilize prototypic interactive computer games for sensorimotor skills and storybooks as one context to compare to more typical dyadic play and storybook contexts in terms of the establishment of joint reference and communication. In Study 2, teachers will attempt to establish joint reference with young children with disabilities in the context of an object permanence computer game ("Find the Bunny") or during play with mechanical toys. Study 3 will be a replication of Study 2 except that parents and their children with disabilities will be involved. Ongoing analysis of videotapes of teaching sessions will provide the empirical basis for suggestions about ways to facilitate joint attention and communication within these contexts. A computer-controlled videotape analysis system will be used with both keyboard and voice input to expedite the tape rating and feedback process. In Study 4, parents will be provided with interactive, computerized storybooks or regular storybooks to examine the utility of reading activities as joint referential and communication contexts. Study 5 will broaden the study to establishment of joint reference and language production in a small group setting (3 children, 1 teacher) in which simple play scripts are enacted (e.g., snack time, putting a baby to bed). Half of the children will be involved in a small group with one child who does not have disabilities and half will be in contexts including only children with disabilities. In Study 6 the investigation of interventions to facilitate joint referential states and language production will be conducted in large group free play situations in a structured classroom that is integrated with children who do not have disabilities or in one that includes only children with disabilities. An intensive collection of data on language use and sensorimotor skills will ensure comparability across the 276 subjects involved in these cross-sectional and longitudinal studies.

**ANTICIPATED PRODUCTS:** In addition to the findings from the studies, an outcome of the project will be the development of an observational technology from which complex social process descriptions can be completed, analyzed, and used as the basis for suggestions on how to modify interactions with young children with disabilities. The studies will provide evidence about the relative effectiveness of new language intervention techniques for early childhood special educators who work with children who have both developmental and language delays.

### **Application of a Behavioral Momentum Procedure for Increasing Appropriate Behavior in Young Children with Behavior Disorders and Developmental Delays**

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GRANT NUMBER: H023B40021

BEGINNING DATE: 10/01/94

ENDING DATE: 8/30/95

#### **ABSTRACT**

**PURPOSE:** The project will employ and document the technique of behavioral momentum with preschool children with disabilities displaying a history of non-compliant behavior.

**METHOD:** The study will use behavioral momentum strategies to increase the overall appropriate behavior of preschool children during activities designed to facilitate the acquisition of gross motor skills, self-management skills, and self-help skills. The procedures will be used with four preschool children with developmental delays who exhibit a history of noncompliance. A multiple baseline design across behavior will be completed for each child. The study will investigate the efficacy of the technique in increasing overall appropriate behavior, decreasing response latency, and facilitating accuracy and completion of tasks.

**ANTICIPATED PRODUCTS:** Further validation of the behavioral momentum technique will offer special educators an effective method of increasing compliant responses among young children with disabilities. Proactively dealing with this issue will not only eliminate the possible use of aversive measures, but will also promote more positive interactions, reducing the future likelihood of a child developing more aberrant behaviors.



## **An Exceptional Analysis of Teacher/Parent Mediated Interventions for Preschoolers with Behavioral Problems**

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GRANT NUMBER: H023C20172

BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/97

### **ABSTRACT**

**PURPOSE:** This research project will empirically investigate the efficacy of an expanded intervention approach involving behavioral consultation with parents and teachers of preschool children who are at risk for social-emotional difficulties.

**METHOD:** Children experiencing social withdrawal and isolation and children experiencing conduct difficulties will be identified, treated, and monitored for approximately 3 to 5 years, from preschool through early elementary school transitions. Screening procedures and teacher referrals will identify 120 3 to 5-year-olds in Head Start programs. Children selected for the project will be assigned randomly to experimental and control conditions. In the experimental group, children will be further assigned randomly to baselines in a multiple baseline design. Consultants trained in behavioral consultation will work with parents and teachers to deliver a treatment package either for social withdrawal or for conduct disorders. Treatment programs will include social skills interventions supplemented with parent and teacher behavior management strategies. Consultants will also monitor students' progress as they make the transition into elementary school.

**ANTICIPATED PRODUCTS:** In the area of practice, products will include: (1) treatment packages for socially withdrawn and mildly conduct disordered preschool students; (2) treatment integrity checklists and rating scales for monitoring the implementation of specific treatments and (3) the roots of an effective preschool consultation and intervention model put in place in a county Head Start organization. Contributions to research will contribute to the understanding of effects of conjoint behavioral consultation with teachers and parents.

## **A Longitudinal Study of Pretend Play in Young Deaf and Hearing Children**

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GRANT NUMBER: H023A40058

BEGINNING DATE: 6/01/94

ENDING DATE: 5/31/95

### **ABSTRACT**

**PURPOSE:** The primary goal of this project is to provide guidelines for using play observations as an assessment tool for deaf children from 22 months to 4 years of age.

**METHOD:** This study will use videotape from a previous study of 34 deaf and 34 matched hearing children playing with their hearing mothers in a free play setting at the ages of 22 months, 3 years, and 4 years of age. In the childrens' study, language abilities, socio-emotional competence in the classroom, and

nonverbal intelligence were also assessed. In the present study, the tapes will be analyzed for level and pattern of play episodes. The pattern of play will be compared for the deaf and hearing children, and play at 22 months will be related to language and socio-emotional competence at 3 and 4.

**ANTICIPATED PRODUCTS:** Results of this study will indicate what types of intervention are most likely to facilitate pretense in deaf children. By describing the pattern and rate of developmental change in play behaviors of deaf children relative to hearing children, the research will also provide guidelines for interpreting play assessments of deaf children. Meanwhile, it will indicate which aspects of play are predictive of later language and socio-emotional problems.

### **Investigations of Early Motor Intervention Procedures**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30127

BEGINNING DATE: 9/01/91

ENDING DATE: 8/30/96

### **ABSTRACT**

**PURPOSE:** This project will investigate the relative effectiveness of two motor intervention approaches for children with Down syndrome and children with cerebral palsy: the Neurodevelopmental Therapy (NDT) approach and the Peabody Developmental Motor Program (PDM).

**METHOD:** Interventions will be conducted with 60 children with Down syndrome and 60 children with cerebral palsy (ages 6 to 12 months at the beginning of the study) during the first 3 years of their lives. Subjects will come from approximately 12 different sites from the southeastern portion of the United States, each of which provides only one of the two treatment models being investigated. Treatments will be administered by the regular interventionists at these sites, who have been trained to proficiency in the model they are required to implement. The study is based on a pre-post multifactorial design that will assess the relative contribution of several variables to two major outcomes of intervention services: (1) the level of family involvement with their child after 12 and 24 months of services, and (2) the fine and gross motor gains that the children have attained after 12 and 24 months of intervention. Four factors will be used to assess family involvement in the child's intervention program, including the amount of time that primary caregivers engage in therapeutic motor exercises with their child, and the style of the primary parent/caregiver during interacting with the child. Both quantitative and qualitative procedures will be used to assess motor outcomes that children attain. In addition, the study will determine whether the effects of these curricula are replicable across sites. A cost benefits analysis will examine the magnitude of motor gains that children attain in motor intervention programs as a function of the monetary and family resource expenditures that are required to produce these gains.

**ANTICIPATED PRODUCTS:** Dissemination activities will include a technical report to be advertised for distribution after 12 months of intervention data, state and national conference presentations, and journal articles.

## **Prenatal Cocaine Exposure and Social Development of Young Children: A Field-Initiated Research Project**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C10092

BEGINNING DATE: 9/01/91

ENDING DATE: 8/30/96

### **ABSTRACT**

**PURPOSE:** This project will conduct a 5-year program of descriptive and intervention-based research that increases both knowledge regarding social and other developmental outcomes for young children exposed prenatally to cocaine and resources for providing early intervention to this group.

**METHOD:** Subjects for all studies will be infants and young children (6 months to 6 years of age) who were exposed to cocaine prenatally and for Study 1, the longitudinal study, only nonexposed matched controls. Cocaine-exposed children will be recruited primarily by contacting mothers served by the Mother Baby Chemical Health Program of Group Health, Inc., in the Minneapolis-St. Paul metropolitan area. Throughout the seven studies, specific instruments have been selected to provide three different types of measures of the social development of children exposed prenatally to cocaine: (1) a general, performance-based outcome measure of social competence; (2) measures of the type, quantity, and quality of social interactions in home and care/school settings; and (3) direct assessment of other aspects of the child's development. Study 1, involving 50 drug-exposed children and 50 nonexposed matched controls, will consist of a 5-year, longitudinal descriptive analysis of social and other developmental outcomes. Four experimental studies (focusing in turn on environmental arrangements, teacher-mediated interventions, affection training activities, and parent training to promote social interaction competence) will each produce a set of empirically valid intervention procedures. In the final 2 years of the project, these separate intervention procedures will be combined into a comprehensive treatment package, and the effects of this package will be evaluated for both short- and long-term effects on the social interaction of young children. Data analysis will include ANOVAs and MANOVAs, and multiple baseline across subjects designs for the intervention studies.

**ANTICIPATED PRODUCTS:** Dissemination activities will be directed at early intervention personnel and researchers and will include journal articles, conference presentations, training materials, and teacher manuals.

## **Transition Reactions of Families Whose Children Move from Infant Intervention Programs to Preschool Intervention Programs**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A30111

BEGINNING DATE: 10/01/93

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** This project will study the reaction of families as they are exposed to the transition of their infants from an infant intervention program to a preschool intervention program.

**METHOD:** Using a repeated measures design, and a combined interview-questionnaire methodology, researchers will assess the transition reaction at 6 months, at 1 month prior to transition, and at 1 month after transition. The study will focus specifically on what parents perceive as stressful about the transition, what they believe is helpful to relieve that stress, what intervention staff perceive about parents, and perceived needs of intervention staff during the transition process. The investigation will look for patterns in transition responses over time. Also using a regression design, researchers will investigate what variables might affect the transition response.

**ANTICIPATED PRODUCTS:** Findings are expected to have a direct impact on infant and preschool intervention programs in planning for the transition of children with developmental disabilities. Commonalities as well as differences in families' transition reactions will be studied, as will staff reactions about how to best assist families. A methodology for interaction will result.

## **Milieu Language Teaching and Children Prenatally Exposed to Drugs**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40037

BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/95

### **ABSTRACT**

**PURPOSE:** The project will assess the acquisition and generalization over time of milieu teaching by caregivers of children prenatally exposed to drugs.

**METHOD:** Six child-caregiver dyads will be recruited from local agencies serving children prenatally exposed to drugs. Four caregivers will receive parent training in Enhanced Milieu Teaching while the other two dyads serve as controls. In a multiple baseline design across subjects, caregivers will be taught language intervention skills across three phases: environmental arrangement, responsive interaction, and milieu teaching techniques. Generalization over time will also be analyzed. Outcome measures will include direct observations of fidelity of caregiver implementation quality and of child language, as well as a standardized measures of child language development.

**ANTICIPATED PRODUCTS:** This project will contribute new knowledge concerning child outcomes and caregivers implementation of a specific intervention for young children who have been prenatally exposed to drugs. This information will be disseminated through professional publications and conferences for use by other investigators.

### **An Evaluation of the Impact of North Carolina's Early Childhood Initiative on the Inclusion of Preschoolers with Disabilities and Their Families**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A30010

BEGINNING DATE: 1/01/94

ENDING DATE: 12/30/95

#### **ABSTRACT**

**PURPOSE:** This project will evaluate the impact of North Carolina's early childhood initiative on infants, toddlers, and preschoolers with disabilities and their families who receive early intervention services under Part H or Part B of IDEA.

**METHOD:** The project will focus on 12 community sites across North Carolina to address a fundamental question: What happens to preschool children with disabilities and their families as a function of community early childhood programs developed by the local partnerships? The project will employ a mixed-methods design consisting of both quantitative and qualitative measures to assess the following outcomes: (a) access to inclusive programming for young children with disabilities and their families; (b) the appropriateness and quality of child care arrangements for children with disabilities; (c) the involvement and coordination of agencies providing special services to these children and families; and (d) family participation in community planning and satisfaction with general early childhood services.

**ANTICIPATED PRODUCTS:** Potential findings regarding the relationship among program contexts, processes, and outcomes may prove useful to other states seeking to expand, reorganize, and improve services for all young children and families.

### **Continuous Progress Measure in Early Childhood Special Education**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40009

BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/95

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to develop and evaluate a continuous progress measure for preschoolers with disabilities in early childhood special education classrooms, focusing on observation of mean length of verbal utterance (MLU) as a potential proxy measure of children's development.

**METHOD:** Fifty preschoolers between the ages of three and five, half with and half without disabilities, will be recruited for this study. The project will compare data from a standardized language assessment instrument, a spontaneous language sample, and a partial-interval observational measure employing a version of MLU. Language samples and observations will occur during free play activities within ESCE and early childhood education (ECE) classrooms. The standardized language instrument will be administered to each child within the same week of initial classroom observations. Two additional cycles of language sample and observational data will be collected for each subject, with approximately a two-month period between each set. Thus, data collection will occur across an entire school year. Data will be analyzed using MANOVA and correlation procedures.

**ANTICIPATED PRODUCTS:** Results from this project will provide important information about how to monitor a preschooler's progress continuously and when to make instructional changes, if necessary. Also, project findings will provide insight into a quick and efficient method for collecting data systematically, making progress monitoring a more attractive process for ECSE staff and thus facilitating its ongoing use.

### **Effects of an Auditory Prompt System on Independent Child Engagement with Preschoolers with Developmental Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40020

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** This project will capitalize on advances made in the development, maintenance, and generalization of independent performance skills with older learners with disabilities through the use of an auditory prompting system.

**METHOD:** Preschoolers with developmental disabilities who are expected to transition to mainstreamed public kindergarten in the following academic year, but who lack necessary skills to participate in independent activities, will be chosen to participate in this study. These children will be trained to use a self-operated auditory prompting device to assist them in completing age and developmentally appropriate activities. Performance on the number of steps children are able to complete independently for each task as well as the amount of time they remain independently engaged will be measured. Another important variable to be measured is the level of teacher behavior directed to the child in completing the assigned activity. A multiple baseline design across children and settings will be used to assess treatment effects.

**ANTICIPATED PRODUCTS:** It is the goal of this project to develop a strategy that will generalize to untrained settings and activities. Furthermore, the generalization of skills necessary for children to engage independently in activities will help to ensure successful transition of these children into their next educational environments.



## Studies of Infants and Toddlers Prenatally Exposed to Cocaine

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30079

BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/98

### ABSTRACT

**PURPOSE:** The purpose of the project is to investigate the effectiveness of several intervention models for serving infants and toddlers prenatally exposed to cocaine.

**METHOD:** The project will include 3 intervention models: (1) a center-based program that will provide participating children with 25 hours per week of early intervention services with transportation provided; (2) a home program that will provide participants with 3 hours per week of home visits; and (3) a follow-up program that will not include any planned intervention programs. Children in all three groups will receive medical monitoring and developmental assessments. A parallel qualitative research effort will employ a case study methodology to provide an in-depth analysis of all three models. Three further studies will include: (1) a comparison of motor intervention models; (2) an investigation of play and language development; and (3) a study of effects of early intervention models on the emergence of nonverbal communication. Costs of intervention models will also be studied.

**ANTICIPATED PRODUCTS:** Expected outcomes of the field-initiated research effort will include definitive knowledge of: the early development of children prenatally exposed to cocaine, the effects of three intervention service models on child outcomes, and the cost effectiveness of the three models.

## Validation and Field Trial of a Multiple Gating Approach to Preschool Screening for Behavior Problems

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30017

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** This research will assess the psychometric characteristics and validity of a multiple gating screening procedure designed to identify at-risk preschool children, ages 3 through 5.

**METHOD:** Researchers have developed a screening system known as Preschool Screening for Behavior Problems (PSBP) that uses multiple gating. Procedures used by PSBP consist of three interrelated stages cross-validating results. Stage one involves preschool teachers ranking students using objective criteria for both externalizing and internalizing behavior dimensions. Children identified in this stage are then targeted for teacher-completed behavior rating measures in the second stage. Students exceeding normative criteria on stage two measures pass this gate and are assessed further on stage three behavioral



observation measures. These direct observations will be recorded in the classroom. Six separate studies in the first year will establish the reliability and validity of the PSBP process. In the second year researchers will establish normative databases, cutoff scores, and decision criteria for stage two rating scales and stage three observational measures. In year three the efficacy and social validity of the PSBP will be assessed. The fourth and final project year will focus on disseminating results.

**ANTICIPATED PRODUCTS:** This research will produce systematic, cost-effective procedures and instruments for the early identification of preschool students exhibiting behavioral profiles that put them at risk for more severe behavior disorders. The validated PSBP will be a psychometrically sound, field-tested procedure that can be easily implemented by preschool personnel.

## **Social Relationship Development in Community Contexts for Young Children with Severe Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40032

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/95

### **ABSTRACT**

**PURPOSE:** This project will conduct research to expand the social relationships experienced by young children with severe disabilities.

**METHOD:** A series of studies will be conducted, aimed at: (a) demonstrating the efficacy of intensive, longitudinally-applied intervention tactics; (b) understanding how typical young children's attitudes and behaviors can be made more facilitative of relationship-building with peers who have disabilities; and (c) determining how and why consumers adopt and use effective instructional practices in the social relationship domain. The first study will provide community-based social relationship intervention for young children with autism. Study Two will include a psychometric study of existing methodology for assessing the presence or absence of preschoolers' stereotyped views of persons with disabilities in community contexts. An intervention study will then aim at maximizing positive and supportive attitudes and behaviors as expressed by young typical children in community settings. The third study will solicit the concerns of potential adopters of intervention plans regarding the issues, incentives, and disincentives associated with adopting best practices. This assessment information will be followed by targeting community providers for adoption of the interventions developed in the first two studies.

**ANTICIPATED PRODUCTS:** Products shall include: (a) empirically-based articles/chapters; (b) conceptual articles/chapters; (c) white papers synthesizing related policy issues; (d) intervention manuals for direct-line staff; (e) news segments; and (f) yearly monographs on the state of practice related to relationship-building interventions.

## Understanding and Improving Long-Term Outcomes for Children with Autism

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30130

BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/95

### ABSTRACT

**PURPOSE:** This project will provide a school- and home-based ecobehavioral assessment and subsequent functional analysis of the current status of autistic children 6 to 15 years of age who received comprehensive early intervention services. The investigators will complete a comprehensive school and home portrayal of children who have been away from intervention for 1 to 9 years to find and analyze those events and settings that are associated with important outcomes for these children.

**METHOD:** This 4-year project will involve a two-stage series of studies. During the first 2 years, a school-based ecobehavioral analysis will be conducted on 35 autistic children who were participants in an experimental early intervention program. A variety of measures will be used to assess outcomes such as deviant behavior reduction, cognitive growth, and communicative skill growth. The Code for Instructional Structure and Student Academic Response (CISSAR) will be used to record children's academic, social, and survival skill performance during classroom activities in the following settings: regular class (18 students), autism classes in segregated facility (5 students), and LD/BD resource in regular building (12 students). Study 2, focusing on the same subjects as Study 1, will involve observational measures and interviews to evaluate home-based variables including demographics, adult mental health status, adult stress, and incidence of crises. Study 3 will involve the combination and recombination of various data "chunks" from Studies 1 and 2 to test the fit between existing conceptualizations of long-term outcomes for children with autism and the entire data set on school and family predictors. The structural equation modeling strategy will also permit an analysis of the interdependence between school and family predictors. Based upon the correlational analyses in Studies 1-3, a total of six behavior analytic studies will be conducted involving the three most predictive school and family contemporaneous variables that are subject to experimental manipulation. These six intervention studies will focus on four children (or families) each, and will employ a multiple baseline across subjects design. Cost assessments will be conducted for all six interventions. Expected outcomes for the entire study include a comprehensive listing of historical and contemporaneous school and home variables that are associated with autistic children's follow-up status, and a validated set of school and family-based intervention procedures for improving the follow-up status of children with autism.

**ANTICIPATED PRODUCTS:** Dissemination efforts will include research-based manuscripts, conference presentations, a book, workshops, a brochure, newspaper presentations, and classroom instructional products to be directed at researchers, teachers, parents, administrators, teacher educators, and the general public.

## Specific Language Impairment: Language and Generalization

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40118  
BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** This project will attempt to gain a better understanding of the poor bound-morpheme acquisition (BMA) of children with specific language impairment (SLI) in preschool students through a variety of bound-morpheme learning tasks.

**METHOD:** A variety of bound-morpheme learning tasks will be administered to children with SLI (N=120) and children with normal language development (N=120), 40 each per project year. The task variations will be designed to explore the three components of the BMA process: vocabulary learning, bound-morpheme learning, and bound-morpheme generalization. In Project Year 1, the effects of vocabulary learning on bound-morpheme learning and generalization will be assessed. In Project Year 2, the effects of phonological versus semantic enhancements on bound-morpheme learning and generalization will be examined. In Project Year 3, the effects on generalization of reducing vocabulary load as well as emphasizing the affix versus emphasizing the contrast between affixed and unaffixed forms will be investigated. In each of the three project years, a set of associated tasks that assess skills likely to be pertinent to children's BMA performance will also be administered. These tasks investigate sentence memory, nonverbal rule induction, utilization of known bound-morphemes and phonological and semantic similarity effects. Statistical techniques, such as multiple regression analyses, will be used to examine the results of the bound-morpheme learning task, as well as their relationship to those of the associated tasks.

**ANTICIPATED PRODUCTS:** The combined results of these studies will clarify whether theories of storage/access deficits or rule-induction deficits better predict subject-group differences. In addition, the results will determine which components of the BMA process (vocabulary learning, bound-morpheme learning, and/or bound-morpheme generalization) should be the focus of clinical intervention.

### Determining the Efficacy of Preschool Programs for Students with Disabilities: A Feasibility Study

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159F40004  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

### ABSTRACT

**PURPOSE:** The project will develop a conceptual framework for a comprehensive evaluation study of the effectiveness of special education and related services for preschool children in Arkansas.

**METHOD:** This study will include a pilot testing of methods to determine the efficacy of preschool programs, including a quantitative analysis and qualitative analysis of factors related to preschool programs. The quantitative component

will incorporate a comprehensive statistical analysis of existing data, as well as data that will be collected specifically for the project, to determine program effectiveness. A minimum of 75 children will be included in the pilot study component of the project. Both the immediate effects of preschool programs, as well as long-term effects of programs will be targets of the evaluation study, with more emphasis to be placed on long-term effects. The study of the effects of preschool programs on children and their families will examine specific aspects of certain types of interventions, such as number of home visits, and contrasts between different types of services, such as home-based, center-based, and level of interaction with nondisabled peers. A causal analysis paradigm will be used to isolate factors associated with change. Qualitative data will be obtained through focus groups with parents and service providers, as well as the state's interagency coordinating council. Following data collection and analysis, a determination will be made concerning the feasibility of using these methods in a full-scale evaluation of preschool programs in Arkansas.

**ANTICIPATED PRODUCTS:** The project report will include the following components: an overview of procedures used to determine the effectiveness of preschool programs for students with disabilities and those at risk for disabilities; results from quantitative and qualitative study components; results from an advisory panel related to a full-scale, state-wide study of preschool programs using a similar methodology; an overall assessment of the feasibility of using this methodology in a full-scale evaluation study; and plans for future activities regarding efficacy evaluation in preschool programs.

### **Long-Term Follow-Up of Children Participating in Neonatal Hearing Screening Program Using Auditory Brainstorm Response, and Transient Evoked Otoacoustic Emissions**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A30069

BEGINNING DATE: 10/01/93

ENDING DATE: 3/13/95

#### **ABSTRACT**

**PURPOSE:** This analysis will provide information about false negative and false positive diagnoses from a large representative sample of infants who participated in newborn hearing screening.

**METHOD:** The following data already collected and archived by other projects will be used: (a) ABR and TEOAE screening results for over 3,000 infants; and (b) determination of hearing status for these same infants 3-4 years later. Agencies responsible for collecting these data have agreed to the combination of the data in order to determine the sensitivity and specificity of the two screening techniques. Once the two data sets have been combined, analyses will be straightforward, and computation of sensitivity and specificity ratios will be done based on the initial screening results compared to the final hearing status.

**ANTICIPATED PRODUCTS:** No specific products are planned for development, but data gathered will provide important information about false negative rates of both techniques. Combined with data on numbers of children

who are hard of hearing using each technique and the cost of such screening, definitive recommendations about the most effective techniques for newborn hearing screening will be possible.

## **Generalized, Transitional, and Longitudinal Effects of Prelinguistic Communication Intervention**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20152

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/97

### **ABSTRACT**

**PURPOSE:** This project will investigate effects of prelinguistic communication intervention on: (a) children's generalized prelinguistic communication skills; (b) parents' use of behaviors that facilitate children's language development; and (c) children's language development and linguistic communication.

**METHOD:** Sixty children with communication delays who are at risk for related disabilities will be seen five times over a 2-year period. Half of the subjects will serve as a contrast group, while the other half receives staff-implemented intervention. Treatment group subjects will remain in intervention for 6 months or until they meet five mastery criteria. Treatment goals include: action and vocal imitation of familiar and unfamiliar models, participation in social routines, requesting, commenting, and comprehension and expression of vocabulary that encodes the key word for what the child was communicating nonverbally. Intervention techniques will include contingent imitation, scaffolded modeling, environmental arrangement, and violations of routines.

**ANTICIPATED PRODUCTS:** If parents in the experimental group use more behaviors facilitating language development, such findings will support the important bidirectional assumption of the family-systems approach to intervention and the transactional theory of development, two theoretical models undergirding Public Law 99-457, Part H. After determining the effectiveness of intervention, results and validated intervention procedures will be disseminated to practitioners and researchers.

***SECTION 4:***

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***INSTRUCTIONAL  
EFFECTIVENESS,  
MODELS,  
AND  
LEARNING***



## Improving Text Enables Mainstreamed Students' Success

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30014  
BEGINNING DATE: 9/01/93

ENDING DATE: 10/01/95

### ABSTRACT

**PURPOSE:** This study will examine whether use of a causally-organized history textbook over an entire year is more effective than traditional methods and material for students with and without learning disabilities.

**METHOD:** Two measures of history knowledge and one measure of student motivation will be employed to evaluate results. Two 8th-grade United States history teachers and their classes will participate, for a total of 120 students, of whom 6 to 12 will be mainstreamed students with learning disabilities. Students' posttest scores will be drawn from: (1) traditional multiple-choice history assessment through use of objective items from the history component of the National Assessment of Educational Progress tests; (2) performance assessment of history knowledge through student-generated written explanations of primary source historical documents; and (3) attitude assessment of students' intrinsic motivation to study history as measured by the Children's Intrinsic Motivation Inventory.

**ANTICIPATED PRODUCTS:** Findings of this research may result in the design and use of curricula and texts that better serve both mainstreamed and mainstream students. Findings of the research will also clarify possible needs for future modification of the textbook in question and will provide practical knowledge of its strengths and weaknesses in classroom implementation.

## An Analysis of the Effects of Dictation and Planning Instruction on the Writing of Students with Learning Disabilities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40001  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

### ABSTRACT

**PURPOSE:** The purpose of this project is to examine the impact of dictation and instruction in planning essays, on the quantity and quality of the composing plans and subsequent essays created by students with learning disabilities (LD).

**METHOD:** Sixty students with LD will be randomly assigned to four groups to study the effects of two independent variables (dictation versus written production and essay planning instruction versus story planning instruction) on their plans and subsequent essays. Fifteen students with LD will be assigned to an experimental group receiving instruction on how to make oral plans for essays followed by oral production of essays. Another 15 will be assigned to an experimental group receiving instruction on how to make written plans for essays followed by written production of essays. To control for the novelty of planning



instruction, Pygmalion and Hawthorne effects, 15 students will be assigned to each of two different control groups. Students' essays and plans will be examined before, immediately after, and 2 weeks following the termination of the planning instruction.

**ANTICIPATED PRODUCTS:** The study will contribute to educational practice by providing information important to establishing effective writing and literacy programs for students with learning disabilities. The study will provide knowledge for the field of special education regarding the use of dictation as a vehicle for bypassing the production demands of writing, and knowledge regarding the use of a planning strategy to improve the writing skills of students with learning disabilities.

## **An Investigation of the Effectiveness of an Integrated Reading and Writing Instructional Approach**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30036

BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

### **ABSTRACT**

**PURPOSE:** This project will investigate the effectiveness of an integrated reading and writing instructional approach in increasing the ability of middle school students with learning disabilities to comprehend and produce/compare/contrast expository prose while receiving that instruction in a mainstream social studies classroom.

**METHOD:** A pretest/posttest control group design will be used. The project's major phases will be: (1) planning and development (site and participant selection, literature review, materials, and instrument development); (2) hiring and training of personnel (including scorers, observers and classroom teachers); (3) implementation (pre-, interim-, and post- intervention data collection, as well as delivery of the intervention itself); (4) evaluation of data (including examination and analysis of dependent measure data and case study information); and (5) dissemination of project findings.

**ANTICIPATED PRODUCTS:** Participants will be expected to show enhanced (a) comprehension of compare/contrast expository text, (b) writing and using compare/contrast text structure, and (c) organization of compare/contrast expository writing. Information on the project's operating procedures, assessment system, findings, and training will be distributed through research papers presented at professional conferences and submitted for publication in professional journals, handbooks and reports on project procedures, guest lectures, inservice programs, and consultations by the program investigator.

## **Auditory Training for Spatial Orientation in Children with Visual Impairments**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40107

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### **ABSTRACT**

**PURPOSE:** The project will study how children with visual impairments can use naturally occurring auditory information to maintain their spatial orientation while moving about.

**METHOD:** For the first project area, staff will conduct a functional assessment of sound localization. A practical, standardized test for the precision of sound localization will be developed for use by mobility instructors. This test will be assessed for its ability to predict problems with travel skills. For the second component, staff will study the guidance of locomotion via sound fields. A training procedure will be developed to enhance sensitivity to reflected sound and "sound shadows" in a safe environment allowing repeated practice. The procedure will be standardized and made available to mobility instructors using inexpensive materials. For the third component, staff will focus on spatial orientation from dynamic listening. A procedure will be developed for training children about room layout by listening to moving sound sources. The procedure draws on recent advances in audio recording for three-dimensional playback. The sample will be children with visual impairments (N=200) and children without visual impairments (N=16) aged 6 to 12 years. For the assessment, the 16 children without visual impairments will participate. The classroom-based procedure will use portable equipment designed to be easily moved, and will produce computer-generated speech noise. The testing procedure will require children to judge the position of a sound relative to a reference position that is straight ahead at ear level. Staff will later use results of these studies to explore a procedure for making an audiotape recording that will portray the spatial layout of the training room when played back over earphones.

**ANTICIPATED PRODUCTS:** This project will produce two standardized assessment and intervention procedures to contribute to the orientation and mobility training of children with visual impairments. Results will be published in professional journals, workshops, and manuals.

## Research on the Effective Teaching Approach and Visual Display Enhancement to Improve the Content Learning of Adolescents with LD

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N20027

BEGINNING DATE: 1/01/93

ENDING DATE: 12/30/95

### ABSTRACT

**PURPOSE:** This project will conduct one research activity and six experimental studies designed to investigate the effects of successful teaching approach and visual display enhancement on adolescents with learning disabilities (LD) and adolescents without learning disabilities.

**METHOD:** The first three studies will compare various components of the effective teaching approach with a traditional lecture approach to see the effects on the subjects' acquisition and retention of content material. The next two studies and research activity will build on the findings of the first three studies by examining the role of the effective teaching approach in visual display interventions. In addition, the characteristics of an effective visual display will be identified and how these characteristics influence content learning will be examined. The final study will extend the findings of the previous research activity and two studies by training regular and special education teachers to develop a variety of effective visual displays and to use these visual displays in an effectively taught content lesson. A peer coaching procedure will be used to help facilitate the integration of these effective teaching methods and enhancements into the teachers' daily routines across time. In addition, effects of the teaching approach plus visual display enhancement on the academic performance of adolescents with LD and those without LD in content classes will be examined.

**ANTICIPATED PRODUCTS:** This project will directly impact over 150 adolescents with learning disabilities and 30 adolescents who are normally achieving. The teaching approaches of 6 teachers (3 special education and 3 regular content teachers) will be impacted, and the training procedures will provide a prototype for future training efforts. As results of the studies are summarized, research reports and manuscripts will be prepared for publication in professional journals of special education. Project findings will also be presented at national conferences.

## **The Effects of Combined Self-Management Strategies on the Generalization of Social Behavior Changes in Children with Social Skills Deficits**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30008

BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

### **ABSTRACT**

**PURPOSE:** This project will examine the relative effectiveness of a systematic combination of self-management strategies to external treatments to increase the generalization of social behavior changes in children with social skill deficits.

**METHOD:** Specific research questions will include: (1) Does social skills training alone produce the generalization of social behavior changes from training setting to natural settings? (2) Does a systematic combination of self-management strategies significantly increase the generalization of social behavior changes obtained through social skills training? (3) Does external reinforcement significantly increase the generalization of social behavior changes obtained by social skills training? (4) Is a systematic combination of self-management strategies more effective than external reinforcement on the generalization of social behavior changes? Subjects will be six 2nd- and 3rd-grade students who display social skills deficits in classrooms and on playgrounds. The experimental design will consist of four phases: (1) baseline assessment; (2) social skills training; (3) generalization treatment; and (4) follow-up.

**ANTICIPATED PRODUCTS:** Findings from this research will help build an empirical database to support the development and application of an effective generalization strategy leading to positive, durable treatment outcomes. This strategy will enable both regular and special education teachers to effectively increase the generalization of social behavior changes in children with social skills deficits. Project procedures and outcomes will be disseminated through presentations at professional conferences, in addition to inservice and consultative work and site visits.

## **Relationships Among Verbal Interactions in Consultation and Consultation Treatment Outcomes**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40025

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** The project will empirically investigate the relationship among consultant and consultee verbalizations and the resulting treatment outcomes.

**METHOD:** The study will consist of analyses of an extensive extant database generated from three consultation training grants. In all, the three studies include 32 graduate student consultants, 58 teacher consultees, and 73 emotionally disturbed and at-risk children who received either individual or classroom consultation services for a variety of academic and social-emotional difficulties. The database consists of audiotapes of consultation session interviews and several

measures of treatment outcomes. Multiple regressions will be performed using coded verbal interactions as predictor variables and indices of treatment outcomes serving as dependent variables.

**ANTICIPATED PRODUCTS:** This research will add to the knowledge base of practitioners and researchers regarding the impact of consultant and consultee verbal behaviors on consultation problem solving and consultation client outcomes.

## Improving the Persuasive Writing of Students with Learning Disabilities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30023

BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

### ABSTRACT

**PURPOSE:** The study will attempt to determine whether expanded instruction that focuses heavily upon the development of the argument is more effective than instruction focusing upon the minimal elements of persuasion in the production and quality of students' persuasive composition.

**METHOD:** Subjects will include 9th- and 10th-grade students with learning disabilities in Eugene, Oregon. Instruction in both experimental and control conditions will teach students to focus on essential elements of the persuasive writing process such as engaging in preplanning, identifying one's audience, and developing a premise, reasons, and a conclusion in persuasive/argumentative essays. The experimental treatment will be designed to teach students: (a) to identify one's audience and consider the probable viewpoint of that audience; (b) to develop support in terms of the writer's viewpoint and develop an argument that counters the viewpoint of the opposition; and (c) to rank order reasons according to the writer's perception of argument strength and according to the probable reasoning of the audience.

**ANTICIPATED PRODUCTS:** This study will provide educators and researchers with information on research-based techniques to improve the writing of students with learning disabilities, and will determine if specific and explicit techniques can enable students with learning disabilities to approximate persuasive composition of peers without disabilities. Findings of the study will be disseminated at local, state, and national levels.

## **Accommodating Student Diversity in General Education Classrooms: A Downward Extension of Class-wide Peer Tutoring**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N30003  
BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

### **ABSTRACT**

**PURPOSE:** This project will reorganize 1st- through 3rd-grade reading instruction to enhance regular educators' abilities to accommodate a wider range of academic diversity in the mainstream.

**METHOD:** In Year 1, staff will develop and pilot Class-wide Peer Tutoring (CWPT) strategies for beginning readers in six 1st-grade classrooms in two schools. Procedures will make use of strategies and principles of effective reading instruction. The impact of these procedures will be carefully monitored by means of curriculum-based measurement. In Year 2, staff will examine experimentally the effectiveness and feasibility of the downward extension of the strategies with different types of students in mainstream 1st-grade classrooms. Participants will include 20 1st-grade teachers and 120 children, half of whom will be either at risk for or already involved in special education services. In Year 3, the downward extension of the program will be used to permit teachers to tailor CWPT experiences to student's individual needs. Decisions about CWPT placement will be aided by computer-managed curriculum-based assessment, which will be implemented class-wide.

**ANTICIPATED PRODUCTS:** Concrete products of the program will include a new, validated tutoring system in reading suited to needs of various levels of readers and a manual for training teachers and support staff to use the methods developed through the program.

## **Maximizing Effective Teacher-Mediated Intervention in Inclusive Preschools Implementing Developmentally Appropriate Practice**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N40015  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### **ABSTRACT**

**PURPOSE:** This project will develop and validate a package of teacher-mediated intervention strategies that can be effectively used to teach preschool children with developmental delays and disabilities. The children involved in the study are enrolled in inclusive preschool programs implementing developmentally appropriate practices.

**METHOD:** The studies combine single subject methodology, ecobehavioral measures, a national survey, and social validity measures to examine: (a) the effectiveness of the teacher-mediated intervention package across a variety of participants and target skills, specifically addressing skill acquisition, generalization,



and maintenance; (b) the comparative effectiveness of the full teacher-mediated intervention package with two subcomponents of the package, including each interventionists' effect on child outcomes and their acceptability to the interventionist; (c) the effects of implementation of the package on subjects' level of engagement, interactions with peers, and selected variables within the classroom; (d) the extent to which a cumulative training package is effective in teaching preschool teachers to implement the package for the purpose of teaching skills to children with developmental disabilities; (e) perceptions of preschool teachers who have implemented the combined intervention package; and (f) the perceptions of parents of preschool children concerning the procedures and outcomes of intervention.

**ANTICIPATED PRODUCTS:** Project results will be disseminated through publication of research reports to early childhood and special education journals, as well as presentations at national conferences. A cumulative Effective Teacher-Mediated Intervention training manual will also be developed and disseminated along with a trainers' guide.

### **Deaf Students as Readers and Writers: A Mixed-Mode Research Approach**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023T30006  
BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

#### **ABSTRACT**

**PURPOSE:** This project will examine the acquisition of reading and writing skills in deaf and hard-of-hearing children based on a quantitative study of child characteristics and a qualitative study of the classrooms they attend.

**METHOD:** The quantitative study of student outcomes will include measures of student language, reading and writing skills, in two age-matched groups of deaf and hard-of-hearing students in two schooling settings. This study will also include institutional variables of the settings where they receive their schooling and analyses of associations between the students' performances and these institutional variables. The qualitative study of instructional practices will examine two distinct settings that exemplify different modes of communication during reading and writing instruction. This study will be coupled with analysis of deaf and hard-of-hearing students' responses to instructional language as documented in their interaction and engagement with instruction, in their reading and writing practices, and in their written products.

**ANTICIPATED PRODUCTS:** Key research personnel will include activities to disseminate project findings through their writing and publishing.



## **Identifying Reinforcers for Students with Developmental Disabilities Who Are Difficult to Motivate: Promoting Skill Acquisition Maintenance, and Generalization**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40063  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/98

### **ABSTRACT**

**PURPOSE:** The project will conduct a series of studies on the reliability, predictive validity, generalization, cost-effectiveness, and social validity of three procedures for identifying reinforcers for functional skill learning by students with developmental disabilities.

**METHOD:** Two groups of 24 students from three educational agencies whom school personnel find either moderately difficult or very difficult to motivate are identified. After training, two teachers will independently administer three reinforcement identification methods (RIM) for each student at two testing periods separated by 2 months. Alternate forms and test-retest reliability for each RIM will then be computed. The quality of the information of the RIMs will then be assessed by teaching the functional skills using the reinforcers identified by each method. Probes 3 and 6 months later in new training settings will be used to assess the predictive validity and generalizability of the RIMs. Measurement of staff time and a consumer satisfaction rating will allow comparisons to be made regarding cost-effectiveness and social validity.

**ANTICIPATED PRODUCTS:** Dissemination activities will include development and provision of a training manual, videotape, workshops, newsletter, journal publications and presentations at national meetings.

## **Promoting Appropriate Social Skills with At-Risk Children in the Generalized Environment**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30010  
BEGINNING DATE: 10/01/93

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** This research will examine whether a set of generic social skills curriculum prescriptions, developed with empirically validated generalization practices, can be adapted to any existing social skills curriculum or program as an upgrade to enhance generalized responding of social skills where existing methods alone have failed.

**METHOD:** Subjects will be 5 elementary students from each of three resource rooms, who have been identified as displaying social skills deficiencies. Playground observations will be conducted to confirm these deficits, and each teacher will also identify a student who displays appropriate social interaction skills. A generalization upgrade program will be developed according to empirically

derived best practices and will be tailored as an upgrade, to be attached to any existing curricula. Subjects will then be divided for either baseline without social skills training, social skills via traditional curriculum alone, or social skills via traditional curriculum plus generalization upgrade program.

**ANTICIPATED PRODUCTS:** An annual project report and associated research papers will provide project descriptions and reports and will be disseminated at professional conferences and meetings. Procedures will be disseminated via inservice training, guest lectures, and site visits. Outcomes will be published in professional journals and presented at professional conferences.

### **Interpretation of Narrative Theme and Students with Learning Disabilities**

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GRANT NUMBER: H023C30126  
BEGINNING DATE: 9/01/93

ENDING DATE: 10/31/96

#### **ABSTRACT**

**PURPOSE:** This project will investigate the ways in which students with learning disabilities, compared with peers who are not disabled, comprehend complex text that focuses on a content domain of fundamental importance, namely, human social interactions. Another purpose is to determine what types of instruction are effective in promoting comprehension and generalization of comprehension.

**METHOD:** The general methodology to be followed will be modeled on the general strategy of clinical interviews, using sets of 20 students with learning disabilities and equal numbers of age-matched and reading-ability-matched students who are not disabled. Initial questions will be open-ended and students will be encouraged to talk freely. Detailed probe questions will be employed to extract further information. A coding scheme will be developed for the analysis of the resulting protocols. Statistical analysis will use primarily analysis of variance and covariance.

**ANTICIPATED PRODUCTS:** The project expects to generate the following products: selected and evaluated reading materials that focus on a small set of issues that are interesting, important, and useful for students with learning disabilities; guidelines for effective instructional strategies; an instructional program developed on the basis of these guidelines; and an evaluation of the instructional program.

## Methods of Presenting Instructive Feedback: Issues of Acquisition and Generalization

### PRINCIPAL INVESTIGATOR:

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GRANT NUMBER: H023A40020

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** The purpose of this project is to determine whether more varied and less rigid forms of presentation would produce superior acquisition and generalization of target and instructive feedback stimuli.

**METHOD:** Two studies will compare the static presentation of instructive feedback stimuli to varied presentation and compare every-trial presentation of instructive feedback to every-other-trial presentation, respectively. In both studies, researchers will assess the effects of the conditions upon children's acquisition, maintenance, and generalization of their target behaviors, instructive feedback behaviors, and their peers' target and instructive feedback behaviors. Each study will occur in two classrooms and involve 6-10 elementary-aged students with mental retardation. Behaviors taught will be drawn from students' IEPs, and a parallel treatments design will be used.

**ANTICIPATED PRODUCTS:** A self-instructional training manual on the use of instructive feedback during direct instruction will be developed for use by teachers and instructors of inservice and university courses. This manual will be disseminated through direct mail, at conference presentations, and through responses to notices on SpecialNet of its availability.

## Informed Instruction in Mathematics

### PRINCIPAL INVESTIGATOR:

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GRANT NUMBER: H180G20001

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/95

### ABSTRACT

**PURPOSE:** This project will develop a model of teaching that incorporates a detailed understanding of student errors and at the same time stresses conceptual knowledge. The model is known as "informed instruction."

**METHOD:** TORUS, an artificial intelligence program for diagnosing misconceptions in addition and subtraction, will be used as an ongoing method for assessing student learning. Teacher techniques that systematically probe misconceptions and confusion will also be used in some instances. Both diagnostic methods will be linked to conceptually-based remediation techniques. A conceptually-based curriculum will be developed using a variety of resources, and the TORUS program will be piloted as a tool for informing teachers of student misconceptions. Two intervention studies will be conducted to evaluate the effectiveness of an informed instruction approach for systematic linking of addition and subtraction computations and diagnosis of misconceptions.

**ANTICIPATED PRODUCTS:** The final dissemination materials will reflect extensive efforts at empirically validating and refining an informed instructional approach to mathematics. A videotape of informed instruction vignettes will be made to accompany a fully refined version of the concepts curriculum. Other disseminable materials will include guidelines for adapting the informed instruction techniques, where possible, to other common areas of mathematics instruction for students with learning disabilities. Local inservice workshops on informed instruction will be conducted, and articles will be prepared for professional journals.

***SECTION 5:***

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***POLICY,  
RESTRUCTURING,  
AND  
SERVICE DELIVERY  
ISSUES***

## The CHILD Health Resource Partnership: Collaborative Health Interventions for Learners with Disabilities (CHILD)

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023D4X013  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### ABSTRACT

**PURPOSE:** This project will develop an integrated, transagency, and transdisciplinary model to plan, deliver, and research the efficacy of pediatric health care support services to families and young children with chronic health care needs and developmental disabilities.

**METHOD:** This 3-year clinical research project targets children between 4.5 and 6 years who are at high risk for cumulative educational and functional disorders because of dual developmental disabilities and chronic health conditions. This project focuses on the late preschool to early primary school period as critical to the success of children who must move from early intervention programs that emphasize more family-centered and interagency services to less collaborative, more professionally-centered school-age services. Targeted CHILD participants will have a variety of mild to severe neurodevelopmental and neurobehavioral disorders, associated active medical conditions, and mental health disorders. During the first of two research phases staff will observe, follow, and compare two groups of young children with dual medical and developmental needs within the public schools. The control group will consist of a matched sample of children (N=25) who will receive a program plan that they have typically received regarding an array of uncoordinated services. The experimental group will also enroll a matched sample of children (N=25) who will receive the CHILD interventions. After a period of 1 year, Phase 2 will commence, in which the control group will begin to receive the CHILD interventions. Within and between group effect size comparisons will be analyzed as well as the progress and outcome indicators from using each child and family as its own control.

**ANTICIPATED PRODUCTS:** This project will result in the development of a system of transagency care for children and families with developmental disabilities and medical and mental health needs, a family-centered model of decision making about child needs that relies on parental participation and coleadership, and establishment of collaborative transagency strategies for teamwork that foster agency and policy changes.

## Technical Assistance in Data Analysis, Evaluation, and Report Preparation

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: HS92035001

BEGINNING DATE: 9/30/92

ENDING DATE: 10/01/96

### ABSTRACT

**PURPOSE:** This project will create a Center for Data Analysis, Evaluation and Report Preparation to support the Office of Special Education Programs (OSEP) in meeting its responsibilities for the collection, synthesis, and dissemination of information for program management, administration, delivery, and effectiveness.

**METHOD:** The Center will assist OSEP in developing the capacity to collect and analyze valid, reliable, and comparable data for reporting, program planning, and evaluation. Studies will be conducted to analyze significant and emerging issues in special education, and the Center will assist OSEP in providing guidance to state and local educators regarding educational reform issues. Assistance will also be provided to states working to build the capacity to collect valid and reliable data and to perform under the Individuals with Disabilities Education Act (IDEA). The Center will facilitate information exchanges among federal, state, and local special educators to discuss common concerns and goals. Information from multiple sources will be obtained, organized, and analyzed for reporting on the status of IDEA implementation, and the impact and effectiveness of IDEA implementation.

**ANTICIPATED PRODUCTS:** The Center will provide information dissemination, technical assistance, and liaison functions, as well as demonstrate a commitment to stakeholder involvement. Instruments of the technical assistance component will include individual technical assistance activities, semiannual forums, information packets, reference materials, and a research instruments database.

### Center for Special Education Finance

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GRANT NUMBER: H159G20002

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** The Center for Special Education Finance will provide policy makers and administrators at the federal, state and local levels, data, analyses, expertise, and opportunities for information sharing regarding complex and critical special education finance issues.

**METHOD:** The Center will compile special education expenditure statistics with a data system that will produce nationally representative data tying fiscal analysis to program descriptions. This system will be replicable and will include the construction of a core database that will serve as the basis for the fiscal



research to be conducted by the Center. Special education finance policy studies will be conducted through collaborative arrangements with many of the country's leading researchers in special education school finance. Information on state special education finance systems will be aggregated and updated as well.

**ANTICIPATED PRODUCTS:** The planned Center will provide much-needed information on how much is being spent on special education services and will assess patterns of resource allocation. Dissemination products will include a descriptive brochure, an annotated list of Center reports, policy briefs, data summaries, the core database along with documentation, summaries of Center technical reports, and press releases.

### **School Outcomes and Community Benefits for Minority Youth With Serious Emotional Disturbances: Synthesizing Research and Literature to Devise Practical Strategies for Families and Professionals**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023E400!5

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/96

#### **ABSTRACT**

**PURPOSE:** The project will systematically review and synthesize key research findings and literature from related fields and to communicate to schools and families what works, rather than to document past failures of the system, focusing on improvement of practice in the schools in relationship to school success and postschool benefits.

**METHOD:** The project will systematically synthesize literature and research respective to needs, characteristics, treatments, and alternatives as they promote or inhibit successful benefits and outcomes among youth with serious emotional or emotional disabilities. These syntheses will focus on: (1) individuals with emotional disabilities from minority backgrounds; (2) optimizing both educational and social benefits and outcomes; and (3) deriving valid strategies that professionals may use to improve benefits and outcomes. Staff members will identify strategies that professionals can use to improve the benefits and community outcomes for youth from minority backgrounds with behavioral disorders, and will identify strategies that families of youth with behavioral disorders can use to improve school participation and community outcomes for these children and young adults. Staff will achieve these objectives by pursuing a finite series of relevant hypotheses identified by a Constituency Resource Committee. The literature base included to test each hypothesis will be evaluated using a Systematic Integrative Review, applying multiple approaches to synthesize and integrate quantitative, qualitative, and expository literature. The review will permit comparison and compression of information drawn from published research-based, theory-based, practice-based, and case studies, and from literature available through "fugitive sources." Each potential literature source will be examined in terms of problem formulation, the quality and reliability of data or evidence collected, its evaluation of the validity of evidence yielded, the

replicability of interpretations of findings, the accuracy of interpretation, and the quality of presentation of findings. The synthesized data will form the basis for conclusions and recommendations about needs, characteristics, benefits, outcomes, and justification for recommending the use of potential strategies by professionals and families.

**ANTICIPATED PRODUCTS:** The review will yield a database comprised of a set of synthesized data elements relevant to each hypothesis which others may use to replicate both the procedures of the research and the viability of conclusions reached from the synthesis.

### **Project Education Plus: A Proposal to Include Children with Disabilities as a Part of the Systemic Efforts to Restructure Schools**

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GRANT NUMBER: H023R20010

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/96

#### **ABSTRACT**

**PURPOSE:** This project will restructure secondary programs at Holt High School in order to provide improved student advocacy for students with disabilities and those designated as "high risk."

**METHOD:** Interactive relationships will be developed with established school programs, child and adult service agencies, and the Holt community. Parent and student support groups will be established, and training in postsecondary rights and service delivery systems will be provided for students and parents. A core transdisciplinary staff will be established with the ability to identify needs and assist with making contacts with identified agencies. Specific services provided to students will include mentorship, vocational assessment, career counseling, psychosocial counseling, training in assertiveness and self-advocacy, and other services as identified imperative to transition into adult life.

**ANTICIPATED PRODUCTS:** An estimated 250 students will be directly served through the project, and an additional 300 will receive indirect services. The ultimate outcome to the students will be active participation in achieving personal, educational, and vocational skills development, utilizing school and community support, to result in appropriate employment, independence, and involvement with the community. A comprehensive evaluation plan, including formative and summative evaluation methods, will provide and disseminate data on the effectiveness, and efficiency of project efforts.

## Systemic Restructuring to Include Children with Disabilities: A School-based Multidistrict Demonstration Program

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GRANT NUMBER: H023R20030

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will determine what common systemic changes need to be made in schools that are restructuring to increase the inclusion of students with disabilities in general education and improve outcomes for all students.

**METHOD:** An initial model of necessary systemic changes will be developed that will achieve the above goals regardless of the sociodemographic characteristics of a school, its stage of restructuring, or the innovative practices adopted by the school. This model will be developed through determination of common systemic changes specified in strategic plans developed at the end of the first year of the project by all five participating schools. The model will be demonstrated through implementation of changes selected by participating schools as being critical to implement selected innovative practices. Through case studies, the implementation process will be evaluated, and case study results will guide the process of revision and refinement throughout the project.

**ANTICIPATED PRODUCTS:** A newsletter will be developed that describes project findings and the status of the demonstration. Presentations will be made at national, regional, and state conferences. Project staff will meet with the principal investigators of the other six funded demonstration grants to share findings and shape further dissemination plans.

### Goals 2000 and the Inclusion of Students with Disabilities

**PRINCIPAL INVESTIGATOR:**

Feuer, Michael  
National Academy of Sciences  
2101 Constitution Avenue, N.W.  
Washington, DC 20418  
202-334-2000

GRANT NUMBER: H023U40001

BEGINNING DATE: 10/01/94

ENDING DATE: 09/30/96

### ABSTRACT

**PURPOSE:** As requested under Section 1015 of the Goals 2000: Educate America Act, this project is intended to conduct a "comprehensive study of the inclusion of children with disabilities in school reform activities assisted under the [Act]."

**METHOD:** The National Academy of Sciences (NAS) will establish a Study Committee of up to 15 experts which will design and carry out a set of activities, including conducting site visits, holding a workshop, and commissioning scholarly papers. Components will include: (1) An evaluation of the National Education Goals and objectives, curriculum reforms, standards, and other programs intended to achieve the goals. The intent will be to ask how less emphasis can be placed on process requirements and more on program quality, while maintaining adequate safeguards. (2) A review of assessments and measures, and other methods to

collect data on educational progress of students with disabilities. Issues may include whether separate standards, thresholds, outcomes, or assessments should be developed for some students with disabilities; the comparability of modified and unmodified assessments; "flagging" of modified assessments; adapting performance-based assessments. (3) An examination of what incentives or assistance might be provided to states to develop improvement plans that adequately address the needs of children with disabilities. Issues will include incentives to classify children as disabled and various instructional and organizational approaches. (4) The relation of Goals 2000 to other federal laws. Issues will include comparisons of Goals 2000 and IDEA and how they can be brought into greater harmony. (5) Such other items as NAS considers appropriate.

**ANTICIPATED PRODUCTS:** As required by the Act, the National Academy of Sciences will submit an interim report of its findings and recommendations to the President and Congress not later than 12 months from the beginning of the project, and the final report not later than 24 months from that date.

### **Assessing the Impact of Recent State Legislation of the Education of Students with Disabilities and Their Families in Vermont**

**PRINCIPAL INVESTIGATOR:**

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Hasazi, Susan  
Meyers, Bud  
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GRANT NUMBER: H159A30001

BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/95

#### **ABSTRACT**

**PURPOSE:** This project will: (1) evaluate the impact of recent changes in Vermont legislation and policy on local school policy and practice; (2) evaluate the impact of changes in local policy and practice on the delivery of special education services; and (3) assess the impact of these changes on outcomes for children with disabilities and their families.

**METHOD:** The project design includes a state-wide survey, an intensive in-depth ecological study of schools showing dramatic decreases in child count, and records searches and interviews with a variety of stakeholders in Vermont schools. More than 4,000 students, parents, school administrators, and educators will be interviewed over the 2 years of the project. Interviews and other study components will seek to answer whether or not students who would have previously been referred for special education are being adequately served within general education settings, and if students who no longer receive special education are being successfully educated within general education settings.

**ANTICIPATED PRODUCTS:** Every superintendency in Vermont (N=60) will be impacted by the evaluation study. Results of the evaluation project will be widely disseminated throughout Vermont and to other SEAs throughout the country.

## **Project SCORE: Systemic Change Organizing Reform Efforts**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R20016

BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/96

### **ABSTRACT**

**PURPOSE:** This project will employ a systematic perspective in pursuit of an ambitious agenda of working at the state, district, and school levels to evaluate and revise policies and practices and encourage full participation and collaboration among members of the Metro-Nashville public school system and the community at large.

**METHOD:** Quantitative and qualitative methods will be employed within a quasi-experimental design using two project schools and one comparison school. After spending the first half of the first year in planning, School A will conduct small pilots of systematic changes and effective practices, with School B being studied for comparison and control purposes. Implementation at School A will gradually increase throughout the second year until at least 70% of the school population participates in project activities. Meanwhile, School C will commence planning and plotting much as School A did in the previous year. Individual goals within this framework will range from detracking and curriculum enrichment to university and hospital linkages and reform of decision-making and self-determination processes throughout the system.

**ANTICIPATED PRODUCTS:** Following documentation and validation of project practices, dissemination to the scholarly audience will focus on ERIC network reports, journal articles, and presentations at national, state, and regional conferences. Parents and practitioners will be reached through dissemination of a training manual and other practitioner-oriented documents. Professional leadership training activities and other technical support will be provided to support replication and implementation of identified practices.

## **Synthesis and Dissemination of a Knowledge Base Regarding Outcomes from the Placement of Students with Disabilities in General Education Classrooms**

**PRINCIPAL INVESTIGATOR:**

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Education Development Center, Inc.  
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Newton, MA 02158-1060  
617-969-7100

GRANT NUMBER: H023E40005

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to provide practitioners with easier access to relevant information and to provide answers on how to appropriately educate students with disabilities in the least restrictive environment (LRE). The project will synthesize, communicate, and foster the use of the knowledge base concerning the placement of students with disabilities in the general education classroom, and the outcomes of different general classroom support models for students with different disabilities.

**METHOD:** Staff will use a grounded theory approach, integrating multiple data sources, and generating themes, patterns, and constructs inductively. The synthesis will focus on the key variables of students' characteristics, program characteristics, setting and context, and intended and actual outcomes. A series of coding matrices will be developed and combined to describe the data set and to study the factors affecting student outcomes. Staff will initiate the knowledge base synthesis by creating an easily accessible database through which practitioners and researchers can find useful information about the outcomes of the placement of students with specific disabilities in specific teacher/learning environments. Staff members will then review and index the usable knowledge of outcomes according to disability, types of outcomes, program characteristics, and developmental and grade level. Next, staff will prepare at least two different information packets synthesizing portions of the data base. Selection of topics will be based on the number of the documents in the database and the perceived needs of those in the field. This database will be disseminated and supported through the inclusion of stakeholders throughout the process, a forum to be held in Washington, DC, in cooperation with OSEP, and a dissemination strategy including the use of electronic networks. Finally, staff will provide an analysis that will compare strengths and weaknesses of different inclusion models for different types of students.

**ANTICIPATED PRODUCTS:** Products will include a bibliography; collected knowledge of outcomes indexed by disability types of outcomes, program characteristics, and school-level; a user-friendly database with a manual that will enable users to access the database and manipulate it for their own needs; and two information packets synthesizing selected portions of the database.

### **A Study to Determine the Current Levels of Outcome Attainment of Students with Specific Learning Disabilities (SLD) and Students with Severe Disabilities**

**PRINCIPAL INVESTIGATOR:**

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Public Instruction  
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Raleigh, NC 27601-2825  
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GRANT NUMBER: H159A40007

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/96

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to establish a baseline data pool with which to demonstrate the current level of outcomes attained by North Carolina students served under the Individuals with Disabilities Education Act (IDEA).

**METHOD:** The first year of the study will focus on two groups of students with disabilities (students with learning disabilities and students with severe impairments). The second project year will expand the study to include all students receiving services under IDEA. Data will be collected across the following domains: (1) participation outcomes; (2) enabling outcomes; (3) academic outcomes; and (4) postschool outcomes. A previously conducted feasibility study has indicated that these data can be collected with reliability using the AUEN system. Six North Carolina school systems have been invited to participate in the project, three of which participated in the previous feasibility study.



**ANTICIPATED PRODUCTS:** The long-range goal of the project is to establish a state-wide evaluation system to be used by all public schools in North Carolina. With this system, the public schools of North Carolina will be able to make judgments about the effectiveness of their programs for special needs students and make decisions for improving ineffective programs.

## **School-Linked Services to Support Better Outcomes for Children with Disabilities and Their Families**

**PRINCIPAL INVESTIGATOR:**

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415-859-3571

GRANT NUMBER: H023D40015

BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/96

### **ABSTRACT**

**PURPOSE:** The project will conduct research examining school-linked services for children with disabilities and their families based on a conceptual framework that views system issues, service issues, and child and family outcomes as important areas for study.

**METHOD:** Project staff will undertake two components of research: a multi-site analysis of systems, services and outcomes, and an in-depth look at the delivery of services in a school-linked model in one community. The multisite component will examine the services and outcomes for students in special education across 65 Healthy Start school-linked sites in California. Under the multisite component, staff will analyze data collected for a concurrent Healthy Start evaluation to compare services and outcomes for students in special education with those for other service recipients. To provide a richer look at special education in a school-linked services model, staff will study school-linked services for students with disabilities at a single Healthy Start site. The design for this component includes both qualitative and quantitative techniques. Data collection techniques will include staff interviews, direct observations, document analysis, reviews of client and student records, family interviews, and family case studies. Service and outcome data for students with disabilities and their families will be compared with those for others in the same school and with students in special and regular education in a comparison school that serves a similar population but does not provide school-linked services.

**ANTICIPATED PRODUCTS:** This study will provide a detailed description of a school-linked services model from the policy perspective, service-provider perspective, and family perspective. Data from the qualitative components will be used to describe how school-linked services models bring about improved child and family outcomes.



## **A Full Evaluation Study of the Oregon Supported Education Plan and Its Impact Upon Student Outcomes**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A40016  
BEGINNING DATE: 1/01/94

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** The project will determine the effects of recent Oregon restructuring reforms and their impact on the inclusion of all students in regular education settings.

**METHOD:** The Full Evaluation Study will continue to refine an assessment process developed during the feasibility study and then use the process to measure direct student outcomes. The process will use: (a) the Oregon Portfolio Assessment System, (b) extant student assessment data, and (c) school records. Staff will also conduct two multiple-site descriptive case studies (at elementary and secondary levels) using these sources to document the impact of supported education on the direct student outcomes of students with and without IEPs. An analysis of the relative impact of supported education "implementation factors" on student outcomes will be conducted, integrating professional staff/parent respondent data with direct student outcome data to create a set of multidimensional dependent variables for analysis. The project will also pilot-test and provide feedback to the ODE about their development of the Oregon Portfolio Assessment system for use with students with IEPs, thus continuing the important process of integrating long-range statewide plans.

**ANTICIPATED PRODUCTS:** A full evaluation report will document each of the following: findings of the study related to the impact of supported education implementation factors on outcomes for students with and without IEPs; the development of a process to monitor the effects of supported education on students with and without IEPs; and recommendations regarding the use of Oregon's Portfolio Assessment Process with students with IEPs.

## **Including Students with Disabilities as a Part of Systemic Efforts to Restructure Schools: Souhegan Cooperative School District**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R20018  
BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/96

### **ABSTRACT**

**PURPOSE:** This project will assist New Hampshire schools with the inclusion of students with disabilities in secondary school restructuring and reform efforts.

**METHOD:** Training and technical assistance will be provided to Souhegan High School to insure that the needs of students with disabilities are fully considered in all curricular, governance, and organizational reform efforts. Training and technical assistance at Souhegan and other schools in New Hampshire will also target the objective of full inclusion of all students in the

mainstream of education. Findings from the Souhegan effort will be replicated at two additional high schools. In collaboration with the University of New Hampshire's teacher education program, inclusion philosophy and practices will be critically examined and integrated into teacher training programs. In collaboration with the state Department of Education, inclusion-related philosophy and competencies will be incorporated into teacher certification revision efforts. Leadership training will be provided to regular and special education school administrators relative to best practices in inclusion, reform, and restructuring.

**ANTICIPATED PRODUCTS:** A model will be developed for evaluating educational outcomes of students with disabilities enrolled in restructured schools and overall project efforts. Dissemination materials will include two books, four refereed journal articles or book chapters, one monograph, a manual of lesson plans, a project brochure and newsletter, 20 regional and national conference presentations, and a conference on restructuring and inclusion sponsored specifically by the project. General community awareness will be increased throughout the state regarding the rationale behind full inclusion of students with disabilities in school improvement efforts.

### **Technical Support for the Department of Education's Effort for Translating Research to Practice for Educating Individuals with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: HS92017001  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/97

#### **ABSTRACT**

**PURPOSE:** This project will provide technical support for the Department of Education's effort to translate research into practice in the field of educating students with disabilities.

**METHOD:** The project will plan and evaluate programs to support the development of national program agendas, and identify and confirm focus statements and strategic targets for national commitment. Information will be synthesized from a variety of sources, including literature, programs, individuals and groups, to identify potentially effective practices. In the process of developing an accessible professional knowledge base, the project will implement and evaluate strategies for creating linkages between researchers and practitioners, in addition to disseminating pertinent information and soliciting consumer input. The project will also develop and implement a performance management system to ensure continuation and generalization of practices found effective.

**ANTICIPATED PRODUCTS:** Results of program evaluations will be a series of reports corresponding to specific project target statements, a final report on implementation procedures, and a final report on national agenda-building processes.

## Evaluating School-linked Services for Children with Disabilities and Their Families

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023D40017

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/97

### ABSTRACT

**PURPOSE:** This project will describe the participation and outcomes of students with disabilities and their families who receive school-linked services in schools that are implementing the full-service school concept and will study programmatic and policy implications associated with the delivery of school-linked services using a full-service school concept.

**METHOD:** Staff will conduct three interrelated studies to address: (1) the implementation of this concept of delivery; (2) whether services provided are culturally competent and based on family needs rather than service providers' perspectives; and (3) academic and social outcomes of participating students with disabilities. The research will be conducted in two elementary schools selected by the district because of their substantial need for general health, mental health, and social services. Study 1 will conduct case studies with the schools as the unit of analysis to provide an in-depth profile of the full-service concept, describe the participation of children and families, and identify systemic and programmatic features that act as barriers to, or facilitators of participation. Study 2 will compare the extent of participation and the outcomes of students with disabilities who attend full-service schools with: (1) students without disabilities in the same schools; and (2) students with disabilities who receive continual special education and related services in representative schools in the district. During this study, staff will also assess and analyze students' outcomes using the National Center for Educational Outcomes model. Finally, Study 3 will involve an analysis of 12 individual case studies of students with disabilities and their families that focuses on the quality of services and whether this quality varies with type of disability and race and ethnicity.

**ANTICIPATED PRODUCTS:** This project will result in an in-depth profile of the full-service school concept, an in-depth description of full-service school concept implementation, an analysis of the academic and social outcomes for students with disabilities, and data regarding programmatic and policy implications of the full-service school concept.

## Systemic School Reform for Students with Disabilities in Prince George's County

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R30016

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/97

### ABSTRACT

**PURPOSE:** This project will assist three separate elementary schools in Prince George's County, Maryland, to move toward a comprehensive school-wide restructuring process that will address the major aspects of school restructuring including the special education service delivery system.

**METHOD:** Within each school, project staff in cooperation with school staff will: (1) select and refine a framework for restructuring special education service delivery; (2) develop a comprehensive strategic plan that specifies goals in each of the five restructuring areas, identify key events that must occur, responsible parties, and specify timelines; (3) implement and refine the systemic educational restructuring plan to accommodate ongoing reform initiatives; (4) conduct case studies to document the process of restructuring; (5) develop school sites into professional development centers providing collaborative training of special and regular educators; and (6) conduct project evaluation.

**ANTICIPATED PRODUCTS:** The outcome of the project will be three individual approaches to restructuring the total educational programs within participating schools. Experiences of participants, as well as intended and unintended outcomes or products, including effects on students, will be carefully documented through case studies and broadly disseminated.

### Including Children with Disabilities as a Part of Systemic Efforts to Restructure Schools

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R30030

BEGINNING DATE: 6/01/93

ENDING DATE: 5/31/97

### ABSTRACT

**PURPOSE:** This project will develop, implement, and evaluate district-wide policies and procedures to change the overall educational system in a manner that includes students with disabilities as a major component of this reform.

**METHOD:** The model project will be implemented in a school district in Rotterdam, New York, which currently serves 2,900 students, including 215 special education students. The project will employ a district steering committee, a model project think tank, six district planning teams, three building reform teams, and four participant/observers as basic structures of operation. During the initial planning phase, district planning teams will engage in refining major goals, determining specific outcomes associated with each goal, and developing measurement techniques to assess each specific outcome. Building-level planning will follow, using school-based teams to set standards for determining goal attainment at each school, and to formulate reform intervention plans and

professional development activities designed to accomplish these reforms. Building reform teams will design strategies and structure implementation activities in their own schools and along with the steering committee, they will monitor the efficacy of implementation.

**ANTICIPATED PRODUCTS:** Project staff will present findings and results of this project at state and local conferences. They will also provide inservice training and develop articles for publication in relevant research journals.

## **Restructuring Education for Work: Examining the Outcomes for Youth with Disabilities**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H023R20034  
BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/97

### **ABSTRACT**

**PURPOSE:** The primary goals of this project are twofold: (1) to refine and implement a merged restructuring effort centering on the inclusion of youth with disabilities in Tech Prep programs; and (2) to rigorously evaluate the processes, effects and impact of this initiative.

**METHOD:** A 15-member Leadership Cadre will guide the development and implementation of the project. The Cadre will be facilitated and supported by an evaluation consultant team from the Center on Education and Work and the Center on Organization and Restructuring of Schools, both located at the University of Wisconsin. The basic project design will incorporate concepts of reflective practice, teamwork, continuous quality improvement, organizational learning, and action research teams. These teams will conduct focus groups, surveys, interviews, document analyses, and observations as appropriate. Based on a comprehensive data set, specific reform strategies will be developed, implemented, and evaluated in Years 2 and 3. During the latter part of Year 3 and throughout Year 4 the validated processes will be replicated in nearby school districts.

**ANTICIPATED PRODUCTS:** The primary products of this program will be a guidebook describing the planning, implementation, and continuous assessment processes used throughout the study. Throughout the project a series of special reports and journal articles documenting the resolution of critical curriculum and instructional issues will be released.

## Lane County Direction Service — Ombudspersons

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023M20010

BEGINNING DATE: 10/01/92

ENDING DATE: 3/30/96

### ABSTRACT

**PURPOSE:** This project will improve the delivery of community services for children/young adults with disabilities and help ensure their involvement in appropriate educational programs.

**METHOD:** Project goals will be accomplished through the recruitment and training of ombudspersons to assist families, and the development of a multi-agency advisory committee charged with the identification and resolution of systemic and organizational problems. A model ombudsman program is planned within a school district serving over 17,000 students, including at last 1,500 students with disabilities. Information on available community resources for families of children with disabilities will be collected and updated. A consumer satisfaction survey will be designed and administered to parents, and a qualitative study will examine formal and informal patterns of interaction between the school district and other service providers.

**ANTICIPATED PRODUCTS:** Results should involve: (1) creation of a trained cadre of professional ombudspeople; (2) initiation of communication among key agency leaders for the specific purpose of improving collaborative relations; (3) improved access to high quality information on community resources for parents and consumers; (4) extensive documentation of system improvement needs in the school district; and (5) development and field testing of an innovative ombudsperson training package.

### The Thoughtful Structures and Effective Practices Project: Building an Inclusive Exemplary High School Community

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R30015

BEGINNING DATE: 6/01/93

ENDING DATE: 5/31/97

### ABSTRACT

**PURPOSE:** This project will incorporate effective practices for students with disabilities into a new high school that is committed to inclusion.

**METHOD:** Beginning in Year 1 and continuing throughout the project, the project will play a major role in developing the high school's mission, student goals, student outcomes, and quality indicators, to better reflect the diversity of student needs. The project Advisory Committee and school teams will receive training and assistance needed to participate in the school process of developing systems of accountability for its students, actualizing its inclusion goal, and reallocating staff and resources for integrated programming. Project funds will support staff development in best practices for secondary students with disabilities chosen by the school teams. Multiple methods will be used to document the



process of developing an inclusive high school including focus group interviews, stakeholder surveys, observation and documentation of meetings, and collection and analyses of school documents.

**ANTICIPATED PRODUCTS:** Findings and updates on the ongoing project will be disseminated through newsletters to parents of students with disabilities and their teachers.

## **Cooperative Agreement to Establish a Center for Policy Research on the Impact of General and Special Education Reform**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023H40002

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/97

### **ABSTRACT**

**PURPOSE:** This project will establish a Center for Policy Research on the Impact of General and Special Education Reform to investigate and analyze critical issues in current general and special education policies, their interactions, and their impact on students with disabilities, with a focus on discerning policy options for stakeholders at the federal, state, and local levels.

**METHOD:** Over a 3-year period, the Center will conduct extensive cross-site analysis across diverse state and local sites and across dimensions of policy development, implementation, and impact. The Center will use primarily qualitative research methodologies, including systematic policy review, case study design, and action research. The Center will report on: (1) interaction of special and general education reform efforts within 16 states; (2) four in-depth case studies of how state-level special and general education reform policies interact with and impact on local school districts and on students with disabilities; and (3) four additional in-depth case studies of school districts engaging in reform of both general and special education, such as those creating "inclusive" schools, including their interactions with state-level educational policies

**ANTICIPATED PRODUCTS:** The Center will provide a structured program of training and mentoring to at least four graduate students each year in the fields of public policy and/or disability policy. They will be offered formal coursework and will participate as field researchers under the direction of senior researchers. The Center's research findings will be widely disseminated through channels and vehicles that are readily accessed by a variety of stakeholders in language that will be jargon-free, appealing to a wide audience.



## Kansas University Affiliated Program at Lawrence's School-Linked Services Research Project

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023D40020

BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/97

### ABSTRACT

**PURPOSE:** This project will study school-linked services that are designed to support better outcomes for children with disabilities and their families through the combined efforts of the Kansas State Board of Education (KSBE) and two local school districts providing school-linked services.

**METHOD:** The sample for this investigation will include all children (N=270) and their families who receive school-linked services through one of the two target projects. This research project consists of interactive qualitative and quantitative components designed to augment each other. For the qualitative component, staff will conduct naturalistic inquiries regarding policy and implementation issues related to school-linked services. These naturalistic inquiries will reveal the perspectives of participants at all levels of the implementation process, including consumers, teachers, administrators, related service providers, and other stakeholders. During the first project year, the inquiry team will identify service integration needs and barriers at each site and develop potential solutions relative to matters such as logistics of services and staff training needs. During the second project year, policy, planning, and implementation recommendations will be enacted and the inquiry will serve as a formative evaluation of their impact. Using both consumer and participant perspectives, inquiry teams will examine both accessibility and outcomes of these services. The third project year will involve development and refinement of case studies detailing the impact of planning and implementation processes carried out during the first 2 years. Quantitative descriptive research techniques will be used primarily to examine the impact of school-linked services integration in terms of accessibility of services and outcomes of services. Investigations will be prioritized by relevant stakeholders through Advisory Council participation and naturalistic inquiry information. Areas of study will include length of time between problem identification and implementation of services, and demographic information.

**ANTICIPATED PRODUCTS:** This project will result in identification of effective processes for the initial development and implementation of school-linked services, identification of barriers to school-linked service implementation, and a description of the impact of school-linked services on children with disabilities and their families.

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## **Involvement and Impact on Special Education Programs, Personnel, and Students as a Result of Education Reform Efforts**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A30006

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The project will critically reflect on the state-wide educational reform initiatives in regard to the level of involvement and resultant impact on special education programs, personnel, and instruction.

**METHOD:** The study will collect information from state agencies and the 20 school districts that have been involved in the state-wide school modernization initiative. Eight districts are entering their third year of participation in the statewide initiative; eight are entering their second year of participation, and four districts are entering their first year of involvement in the modernization program. The SEA will also participate with the 20 modernization districts in a quantitative description and analytical study regarding district level efforts reflecting the state-wide initiative. Three school districts, one each in the first, second, and third years of reform, will be involved in an in-depth qualitative information collection intended to determine the extent of the involvement of special education issues in educational reform efforts and the quality of outcomes in regard to systemic change and classroom practice.

**ANTICIPATED PRODUCTS:** The study will result in identification of successful strategies for inclusion of special education issues in systemic reform efforts and the involvement of personnel in capacity building and instructional change strategies. The study will also identify potential barriers at both policy and implementation levels that inhibit systemic reform.

### **The Involvement of Special Education in the Planning and Implementation of the Modernization Project and the Effect of This Involvement on Programs, Personnel, and Students with Disabilities and their Families**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A40013

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** The project will examine the impact of school restructuring efforts in South Dakota upon students with disabilities. The study will also seek to determine the level of involvement of special education personnel and students with disabilities and their families in school modernization efforts. The project will also assess the impact of school modernization efforts on the performance of students with disabilities.

**METHOD:** Questions on the impact of restructuring efforts will be answered through collection of data from state agencies and the 20 school districts currently participating in the modernization project. Three school districts (one each in the first, second, and third years of the project) will provide in-depth qualitative data for analysis of local and classroom-level changes that impact special education programs and students. Quantitative data will be collected from participating school districts, calling for information from administrators, support staff and teachers who use the Portland Instrument and the About Your District Questionnaire. Students' performance indicator data will be gathered from schools via the Student Information System and direct examination of a stratified random selection of students' IEPs.

**ANTICIPATED PRODUCTS:** At the local district level, findings of the study will be presented to all participating school districts and will be disseminated on request to other South Dakota school districts through the state agency and Modernization Project. At the state level, findings will be disseminated through presentations at state-wide conferences and through print media disseminated through state agencies and organizations. At the national level, dissemination activities will include reports to the Department of Education, presentations, and publication of monographs through national organizations.

## Evaluation of Part H Child Find

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A40001

BEGINNING DATE: 1/01/95

ENDING DATE: 12/31/96

### ABSTRACT

**PURPOSE:** This project will evaluate the effectiveness of child find operations in Hawaii, what gaps and barriers may be impeding success, and how the child find component could be strengthened.

**METHOD:** Data from recent years will be collected from existing agency records. In an effort to identify children "missed" by child find, records will be studied by sampling approximately 400 of the 4000 children certified eligible each year. Impact data will be collected through surveys and interviews. The coordinating council (HEICC) and the Evaluation Advisory Group will create initial standards against which to evaluate the effectiveness of child find. Interviews, focus groups, and surveys of families, program staff, and administrators will identify gaps and barriers to a more effective child find program. Samples of 40 families will be drawn from program records. A Project Advisory Group will consider these identified gaps and barriers and describe ways to improve policy and practice. Necessary resources and impacts will be studied with input from program and families.

**ANTICIPATED PRODUCTS:** Information about Hawaii's process and service utilization will be summarized in a report that will provide a basis of comparison for other states as they generate their own data. A Guide for Conducting Evaluations of Part H Child Find will be produced. The guide will describe a model of evaluation of child find that can be adopted to examine and improve any state's system of services.

## Synthesis of Intervention Research

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023E40014

BEGINNING DATE: 10/10/94

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** The purpose of this project is twofold: (1) to analyze through a meta-analysis and a synthesis of single-subject research, as well as a narrative, instructional programs that have produced data on populations with learning disabilities; and (2) to integrate research findings across a diverse study of instructional interventions for students with learning disabilities.

**METHOD:** For the first phase of the project during Year 1, a search of the relevant literature will include at least four on-line databases including: (1) the Educational Research Information Center (ERIC); (2) Psych Lit, a review of psychological journals; (3) Med-line, a review of all medical literature; and (4) Comprehensive Dissertation Abstracts. Search descriptors will include learning disabilities, reading disabilities, and dyslexia. In the second phase of Year 1 all group design intervention studies will be analyzed via a meta-analytical procedure. Analysis will primarily consist of individual study units and careful selection of studies for inclusion on methodological and conceptual criteria. Analysis will include: (1) the collection of published studies; (2) coding of study characteristics; (3) calculation of effect size as common measures of study outcomes; and (4) search for relations between study characteristics and study outcomes. Studies used in the intervention synthesis will include students with learning disabilities in the sample who receive intervention over a minimum period of time; will be retrievable from university libraries, ERIC, or from University Microfilms International; will measure treatment outcomes quantitatively; and will show no severe methodological flaws. For the group design studies, meta-analysis will be conducted through five methods: (1) outcomes will be transformed to a common metric; (2) the study will be used as a unit of analysis and dependent measures will be analyzed separately; (3) a meta-analysis will be performed using a probability method; (4) all studies will be pulled together to test for homogeneity; and (5) studies will be pulled to look for sampling errors. The final phase of Year 2 will focus on hypothesis testing, data analysis, writing, and presenting the outcomes of the quantitative analysis.

**ANTICIPATED PRODUCTS:** This project will provide a comprehensive analysis of all published intervention research with students with learning disabilities and will clarify and integrate relevant research findings across diverse study characteristics. The analysis developed from this project will be incorporated in textbook chapters, disseminated in articles, and presented to state departments and professional conferences.

## **Project SUCCEED in Middle Schools: Securing Understanding in Content Through Consultation and Explicit Environmental Demands**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30064  
BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/98

### **ABSTRACT**

**PURPOSE:** This project will develop, field-test, and evaluate a special education service delivery model for middle schools, with content teachers as the primary source of instruction.

**METHOD:** In Year One, the project will focus on providing content teachers a structure for organizing their content-teaching. During Year Two, the study will investigate effects on systematic data-based feedback on teachers' use of this structural framework. In Year Three, attention will shift to examine how teachers manipulate the two dimensions of the framework in their curriculum and within their interactive instruction to achieve changes in student perception and learning. In the fourth project year, the special educator will be added as case consultant within this package with a student progress monitoring system. The teacher will also be placed in the role of researcher to identify individually effective strategies within a component analysis, using individual student monitoring of learning outcomes and explicit consultation support systems. Finally, in Year Five, the manipulation of Organized Knowledge Forms and Interactive Learning Tasks will be synthesized in a consultation system and evaluated.

**ANTICIPATED PRODUCTS:** Dissemination activities will include the following: presentation at national conferences during all 5 years of the project; presentations at preconference workshops; publication of a number of research reports, monographs, and training modules; and teaching both methodology and findings from research in courses on-campus.

## **Project Departure: Designing Educational Programs Aligned with Reforms in Teaching and Uniform Restructuring in Education**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R30026  
BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/97

### **ABSTRACT**

**PURPOSE:** This project will attempt to implement and explain the relationships among interdependent systemic processes and resource use strategies within the context of school reform/restructuring to enhance system adaptability and inclusiveness as means for achieving better educational outcomes for children with disabilities.

**METHOD:** Three important resource use strategies with extensive empirical support and widespread application will be explored; including: team-building from within the context of organization development framework; consultation

as practiced from a broad behavioral approach; and curriculum-based assessment. Particular objectives to be sought among participating children will include presence and participation in school programs, independence and personal responsibility, skilled social behaviors, and improved literacy.

**ANTICIPATED PRODUCTS:** This project will provide systemic design features for assuring that primary school restructuring initiatives meet the needs of children with disabilities. The use of rigorous case study replications will both guide these efforts and provide valid design principles for schools initiating primary education reform and restructuring initiatives.

## **A State Evaluation of the Degree of Implementation and Effects of Three Service Configurations, General Education/Special Education**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A30008

BEGINNING DATE: 10/01/93

ENDING DATE: 10/30/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to study the roles, relationships, and responsibilities of the educators who teach in the most common configurations of special education service.

**METHOD:** All elementary, middle, junior high, and high schools in Colorado will be surveyed to determine the amount that each service configuration has available and what types of students with disabilities are served by each. Ten percent of teachers instructing grades 6 through 12 whose buildings have responded to the larger survey will be randomly selected for further investigation to determine what actually occurs in each of the three configurations (general education plus special education consultation, services in co-taught classes, and services in resource classrooms). A stratified random selection method will be employed to identify 120 classrooms identified by the larger State survey. Data gathered in these classes will provide in-depth information about teacher roles and responsibilities as well as the value added in terms of the nature of the curriculum taught, the type of instruction offered, and classroom affect.

**ANTICIPATED PRODUCTS:** Results of this study will be useful to: (1) provide information that will guide general education/special education staffing configurations provided to students with moderate disabilities in Colorado; (2) provide information for preservice and inservice teacher education at the district and state levels; (3) inform local and state agencies as they develop policies, and (4) provide methodology and instrumentation for local and state agencies to conduct ongoing program evaluations.



## The Quality Management and Practices Project (QMAP)

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R20019  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** The project will develop and implement a process for adapting and internalizing effective assessment and instructional practices for students with disabilities that will inform the ongoing broader school-based restructuring efforts in the four-school Powerful Schools Coalition (PSC).

**METHOD:** An organizational context will be developed to stimulate ongoing implementation of school innovation for students with disabilities. The PSC will develop a plan for systemic change to incorporate effective practices for students with disabilities in PSC restructuring efforts. Effective practices for students with disabilities will be designed, introduced, evaluated, refined, and incorporated in field-test classrooms within participating schools. Validated practices will then be selected for implementation throughout the PSC. Case studies will be conducted on the policy, organization, administrative, operational, and cultural features that enable schools to implement systemic changes.

**ANTICIPATED PRODUCTS:** The project will identify the mediating and bridging conditions that link effective teaching and learning practices with structural alterations that sustain positive student and teacher outcomes. The case studies will be a major product of the project, as they will describe components of the system and the culture of the schools that the schools choose to focus on as they incorporate these practices into the process of continuous improvement.

### Shared Responsibility

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023R30029  
BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/97

### ABSTRACT

**PURPOSE:** This project plans to initiate and sustain systemic school change that supports the inclusion of students with disability labels in general education classrooms and in their communities.

**METHOD:** Through the process, members of the Alice Smith School community will collaboratively gather information about the systemic and organizational features of their school and community, describe goals and visions for both the school and for student outcomes, identify critical features that impact the full adoption of new ideas and best practices, and implement strategic action plans to restructure the system so that full inclusion and educational excellence are achieved. Intensive, ongoing evaluation will be used to assess and refine the restructuring model to develop a systematic yet flexible model that will be replicated in a second school in the third and fourth years of the project.



**ANTICIPATED PRODUCTS:** This project is expected to significantly contribute to knowledge about systemic features of schools that impact adoption of inclusive education best practices, and of planned educational restructuring. Dissemination of project results and findings will be achieved through a combination of conference presentations, journal articles, and replication efforts.

## **Research on Grouping Practices for Mainstreamed Special Education Students**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30013  
BEGINNING DATE: 8/15/93

ENDING DATE: 8/14/96

### **ABSTRACT**

**PURPOSE:** This project will conduct an investigation of academic, social, and instructional outcomes as they relate to literacy instruction for students with learning disabilities mainstreamed in regular education classrooms organized either homogeneously or heterogeneously.

**METHOD:** The first study year will include a comprehensive survey of teachers', parents', and students' perceptions of grouping practices. Subjects will include 300 elementary teachers in grades 3 through 5, as well as one student with learning disabilities, one low achieving, one average achieving, and high achieving students for each teachers' classrooms, as well as one of the parents of each of these students. Years 2 and 3 of the study will consist of longitudinal studies to follow third graders from each of the four student groups. In addition to quantitative analysis of data, individual students and teachers will be identified for more in-depth case studies using qualitative methodology.

**ANTICIPATED PRODUCTS:** This study will result in the following benefits: (1) a more comprehensive understanding of grouping practices as they relate to academic and social functioning of mainstreamed students; (2) a better understanding of teachers' beliefs and knowledge relating to the literacy instruction of students with disabilities; (3) a more complete picture of parent and student attitudes toward grouping practices; and (4) a better understanding of grouping practices that effectively meet the needs of all students without inhibiting the progress of other students.

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## Open Enrollment and Students with Disabilities: Issues, Implementation, and Policy

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C00004

BEGINNING DATE: 9/16/90

ENDING DATE: 9/15/95

### ABSTRACT

**PURPOSE:** This project will conduct a 5-year naturalistic investigation in Minnesota on the effects of open enrollment in order to understand the benefits and problems that result from its implementation.

**METHOD:** In an effort to develop a set of guidelines, 13 studies have been designed to explore the issues and to arrive at implications for policy, research, and practice. These studies use eight primary methodologies (tracking, school district surveys, school interviews, parent/student surveys, parent interviews, observations, checklist completion, and school record reviews) to address specific research questions.

**ANTICIPATED PRODUCTS:** Outcomes include a knowledge and database, technical reports, and specific usable documents for policy makers.

***SECTION 6:***

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***SECONDARY  
EDUCATION  
AND  
POSTSECONDARY  
OUTCOMES***

## Reasoning Strategies and Teaching Routines for Use in Mainstream Secondary Classrooms

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20094

BEGINNING DATE: 8/01/92

ENDING DATE: 7/31/95

### ABSTRACT

**PURPOSE:** The purpose of this project is to favorably effect the academic performance of students with learning disabilities and low-achieving students by having regular classroom teachers act as learning partners with the students and mediate student reasoning as they teach content information.

**METHOD:** Two reasoning strategies will be developed and validated. Learning partnership routines associated with teaching the reasoning strategies will be validated for use by students and teachers, and activities associated with the learning partnership routine will be developed and validated to facilitate independent student use of the strategies in individual and group settings. Effects of the teacher training program will be evaluated in terms of teacher implementation of the instructional model. Effects of the instructional model will be evaluated in terms of student performance on strategic reasoning, content measures, and motivational factors. There will also be an evaluation of the social validity of the instructional model for both teachers and students, measured by specially constructed surveys. In addition, descriptive studies yielding both quantitative data from teacher surveys and qualitative data from information received from focus group-type meetings with the teachers will be collected.

**ANTICIPATED PRODUCTS:** This project will show that gains in student performance can be achieved in the areas of reasoning skills, content knowledge, and learner motivation. Dissemination materials will include a position paper, separate reports presenting results of studies one through three, and publication of teacher training procedures.

## Dropout Prevention and Intervention Programs for Junior High School Students in Special Education

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023K00017

BEGINNING DATE: 9/01/90

ENDING DATE: 8/31/95

### ABSTRACT

**PURPOSE:** This project will develop and field test interventions to support junior high school aged students with disabilities who are at risk of dropping out of school and to increase the holding power of the schools they attend.

**METHOD:** Interventions will be directed toward the family, home, school, and community. Comprehensive strategies in each area will be integrated to meet individual students' needs. Three phases will be followed: Intervention Refinement, Intervention Implementation, and Final Follow-up, including dissemination. Two groups of students in each school will participate in interventions over a 2-year period.

**ANTICIPATED PRODUCTS:** Direct benefits are expected for students participating in the project, in terms of reduced risk of dropping out, greater school achievement, and improved relationships with school, home, and community.

### **Check and Connect: Dropout Prevention for Youth with Learning and Behavioral Disabilities in Transition from Middle to High School**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40019

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This project will implement a dropout prevention procedure for students with learning and emotional/behavioral disabilities who are making the transition from middle school to high school.

**METHOD:** The project will be set in the Minneapolis high schools in which approximately 100 students with relevant disabilities will be enrolled in 9th grade after exiting from two middle schools in which the same dropout prevention procedure was used. The effects of the "Check and Connect" procedure during the first year of high school will be tested with approximately 50 of the students, while the remaining 50 who employed the monitoring and school engagement procedure in middle school but not in grade 9 will be used for comparison purposes. Students will be monitored, with key risk behaviors checked and charted on a weekly basis, and individualized connect strategies implemented throughout the year. Interactions with students will be initiated by monitors every week, with instruction on the economics of staying in school, the use of social problem solving strategies, and hints about surviving in high school.

**ANTICIPATED PRODUCTS:** The project will significantly advance and improve the dropout research knowledge base and its application to practice for students with learning and emotional/behavioral disabilities, those students at the highest risk for dropping out of high school.

### **Is There a Causal Relationship Between Self-Determination and Adult Outcomes for Youth with Mental Retardation? A Follow-up Study**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40028

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** This project will conduct research that will provide the necessary impetus to establish a research agenda focusing on educational practice and the promotion of self-determination.

**METHOD:** This research will examine the causal relationship between self-determination and positive adult outcomes for individuals with mental retardation. The study uses an extant data base collected by The ARC in the course of two

OSEP-funded projects that developed curricular and assessment materials to promote self-determination. This database consists of scores for more than 500 adolescents with mental retardation, reflecting multiple indicators of self-determination, including general self-determination, perceptions of control, attributions of success and failure, perceptions of efficacy and outcome expectations, self-concept, and self-esteem. The project will follow up with those students who have exited school and collect data regarding current adult status.

**ANTICIPATED PRODUCTS:** The analysis resulting from this research will provide valuable information regarding the relationship between self-determination and its constituent elements and adult outcomes for youth with disabilities.

### **First Decade After Graduation: Qualitative Analysis of Postschool Outcomes for 1985 and 1990 Graduates**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C00079  
BEGINNING DATE: 10/01/90

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** This project will examine how variables such as special education classification, socioeconomic status, and personal factors interact during the 5 to 10 years after high school. It will also suggest ways the key variables could be manipulated in secondary school programs to increase the likelihood of a special education student making a successful transition to an adult occupation and lifestyle.

**METHOD:** Qualitative methods will be used in case-control studies to examine the interactions of factors that are not captured in strictly quantitative data. Logistic regression analysis will integrate quantitative and demographic data to develop a prediction equation for special needs students, and a computer simulation program will model outcomes dependent on key variables.

**ANTICIPATED PRODUCTS:** Areas of need typical of young people within disability groups will be revealed. The program will develop simulation models and data-based guidelines for program changes in special education.

### **Transition to Adulthood for Students with Developmental Disabilities: The Role of Siblings**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40076  
BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/95

#### **ABSTRACT**

**PURPOSE:** The first goal of this project is to conduct a study of the extent to which siblings are currently involved in the education and transition planning of their brothers and sisters with moderate to severe developmental disabilities. The second goal is to explore the range of ways in which siblings may be constructively involved both while their brothers and sisters are in school and throughout their transition to adulthood.

**METHOD:** The project will utilize both quantitative and qualitative methods, including administration of a mail survey of 100 siblings of transition-aged students with developmental disabilities to determine the nature and extent of sibling involvement in the educational and transition planning process and semi-structured interviews with a smaller sample of 20 siblings to conduct a more in-depth follow-up of the results of the survey. Follow-up interviews will focus on a purposeful sample of questionnaire respondents that reflects a range of levels of involvement and awareness of educational issues, ethnicity, type of disability, and geographical setting.

**ANTICIPATED PRODUCTS:** Findings will be distributed through written products and inservice presentations to families, educators, researchers, and technical assistance providers. Other expected outcomes include a stronger understanding of practical ways for families and educators to improve transitions through sibling involvement.

### Using Follow-Along Information Effectively

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H023C10041  
BEGINNING DATE: 8/01/91

ENDING DATE: 7/31/95

### ABSTRACT

**PURPOSE:** This project will build upon a strong foundation of existing work, including a systems-change model called the Community Transition Team Model and a follow-along model, both of which are currently being implemented by the applicant on a state-wide basis in Oregon.

**METHOD:** The project design involves four basic steps: (1) preliminary development of methods and materials for linking follow-along information to program improvement efforts; (2) demonstration and evaluation of the methods and materials in Oregon, followed by appropriate modification of the methods and materials; (3) replication and evaluation of the methods and materials in a second state, followed by appropriate modification of the methods and materials; and (4) national dissemination of project findings, methods, and materials. The primary subjects for both the Oregon demonstration and the subsequent replication are leaders and members of "transition teams." Thirty-five teams currently exist in Oregon with a total membership of approximately 500 providers and consumers of secondary special education and transition services. Project implementation involves a very active collaboration among the University of Oregon, the Oregon Department of Education, and a state-wide network of transition teams.

**ANTICIPATED PRODUCTS:** Dissemination of project methods and materials to interested SEAs throughout the country will involve a two-step procedure: first, a national symposium will be held to present the model to SEA staff who are responsible for secondary special education and transition programs; following the symposium, regional workshops will be conducted in five regions of the country to train SEA staff.



## The Social Network Pilot Project for Students with Visual Impairments

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A30108  
BEGINNING DATE: 9/01/93

ENDING DATE: 3/01/95

### ABSTRACT

**PURPOSE:** This project will examine how adolescents and young adults who are visually impaired spend their time engaged in academic, social, daily living, and vocational pursuits.

**METHOD:** Quantitative and qualitative analyses between matched pairs of visually impaired and sighted adolescents will empirically describe factors that may contribute to successful or unsuccessful adult living and working experiences for students with visual impairments. In addition, differences and similarities between students with visual impairments and their sighted peers will be investigated. In the first project phase, co-investigators will develop and field-test instruments necessary to complete Study One, including four separate student/parent interview questionnaires and a time diary format. Sixty students will be identified as study participants. Participants will be divided among blind, low vision, and sighted students. The second project phase will involve the major data collection process for Study One, including the above-mentioned instruments and a series of three telephone interviews. Phase Three will consist of Study Two, a qualitative study involving nine of the students from the quantitative study. An in-depth ethnographic analysis and social history will be conducted on all participants, with an observation protocol implemented to target specific social, vocational, and daily living indicators that influence transition planning and implementation for students with visual impairments.

**ANTICIPATED PRODUCTS:** Project results will systematically document the psychosocial, ecosocial, and experiential learning factors that appear to lead to successful transition processes for students with visual impairments. Findings will be disseminated through conference presentations, journal articles, and newspaper stories authored by the co-investigators. It is anticipated that this pilot study will set the stage for a more extensive and longer-term project in the future.

## **A Study of the Feasibility of Evaluating Transition Planning as a Function of Using the PASS System**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159F40001

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The project will design a study to evaluate transition planning as a function of using the PASS (Performance Assessment for Self Sufficiency) system (including the PASS instrument as well as the expert system).

**METHOD:** The project will borrow and build on best practice identified in a focused literature review to refine the research design for a subsequent evaluation study. Studies and projects that might usefully be reviewed include those that have attempted to identify best practice in the use of relevant information to support IEP development and multiagency coordination for youth in transition from school to adult contexts. After consideration of the data needs and sources, a feasibility study will describe what information will be collected, by whom, from whom, how often, and on what timeline. A data analysis plan will be prepared as instrumentation is developed to ensure optimal usability of information. The primary data source will be the PASS system, although other data sources will be identified and evaluated for appropriateness. The need for additional instruments will be identified so their design can be anticipated as an evaluation study task. Using the evaluation questions as a basis, data needs will be refined and specific data elements will be generated.

**ANTICIPATED PRODUCTS:** At state and regional levels, results of an evaluation study may determine whether the PASS system is an additional catalyst for cooperative interagency planning between the public schools and the adult service agencies. At the national level, results will potentially provide critical information to other states regarding decisions to implement the PASS system, including information on factors that must be considered prior to implementation.

## **Young People with Mental Retardation on the Threshold of Adult Life: An Ethnographic Study in Transition**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40070

BEGINNING DATE: 7/21/94

ENDING DATE: 7/20/95

### **ABSTRACT**

**PURPOSE:** The purpose of this study is to pilot an ethnographic research methodology to collect and analyze information on the life path of the individual with a disability.

**METHOD:** A group of 12 individuals identified as having mild mental retardation will serve as the data base for this study. This group will represent three subgroups of individuals: (a) those who made the transition out of secondary

school between 2 and 5 years ago; (b) those who transitioned less than 2 years ago; and (c) those who are in school preparing to make the transition. The primary goal will be to use an ethnographic methodology to learn about the nature and history of significant life events and significant events that characterize the school to adult life transition. A second goal will be the study of written Individual Education Plans of students with mental retardation in order to evaluate their own contribution and that of their significant others and to assess the nature of transition planning.

**ANTICIPATED PRODUCTS:** The outcome of the first goal will be life histories of 12 individuals in which critical life events and events related to the school to adult life transition are identified. The outcome of the second goal will be a list and description of the beneficial transition services for the individuals in the study. The completed methodology will be easily replicated and contextualized within the IEP process.

### **Research in Self-Determination of Students with Cognitive Disabilities**

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GRANT NUMBER: H023C40126

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/99

#### **ABSTRACT**

**PURPOSE:** This project will conduct an empirical examination of the causal relationship between self-determination and positive adult outcomes through a longitudinal follow-along study of school graduates with cognitive disabilities, including mental retardation and learning disabilities.

**METHOD:** This project spans five areas of research that staff members will conduct over a period of 5 years. First, through a longitudinal follow-along study, staff members will explore the causal relationship between self-determination and adult outcomes. Using precollected data related to self-determination status and demographic information, project staff will monitor participants' progress at 1 and 3 years after graduation, including employment status, postsecondary education status, marital status, and perceived quality of life. Participants recruited for this component will include students (N=150) with mild to moderate levels of mental retardation and severe learning disabilities. Self-determination assessments will include five domains: (1) autonomy; (2) self-regulation; (3) self-actualization; (4) perceptions of psychological empowerment; and (5) perceptions of self. In the second, third, and fourth components, staff will describe the development of self-determination through various means, including a longitudinal study of perceptions of control and attributions of academic achievement. Students ranging in age from 8 to 19 years will participate, including those with mental retardation, learning disabilities, and no disabilities. During each project year, staff will assess each student on various measures studying locus of control, perceptions of helplessness, and other research foci. The final area of research involves the development and field testing of a model of teaching that distributes the responsibility for learning

among teachers, parents, and students, giving primary control to the student. Participating students will be the primary agents for choices and decisions at each phase of the model's development.

**ANTICIPATED PRODUCTS:** Project research activities will result in data detailing the causal link between self-determination and adult outcomes and describing the developmental course of constituent elements of self-determination. Project demonstration activities will result in the validation of a model of teaching that can be used to promote self-determination. Project materials will be distributed to national organizations, journals, and conferences.

## **A Study of Variables That Influence the Outcomes of High School Students with Disabilities in Regular Education Settings**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H159A30009

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to conduct a study that will increase local district capacity to systematically monitor the outcomes achieved by high school students with disabilities in regular education placements on an ongoing basis and to determine factors that correlate with student success.

**METHOD:** The study will be conducted in five New Hampshire high schools involving approximately 700 students with disabilities in regular education placements and 4,500 regular education students. The study will determine the extent to which the outcome of high school students with disabilities in regular classroom placements are comparable to their peers. The study will further examine the influence of the following types of student and educational process variables on student outcomes -- gender, economic level, and family structure; the type of regular placement and kinds of in-classroom services provided; grouping patterns and instructional practices used in regular education placements; participation in nonspecial education intervention programs; postschool aspirations; the amount of time spent working, doing homework, or watching television; prior retention; and prior participation in early childhood/intervention programs.

**ANTICIPATED PRODUCTS:** The Center for Resource Management (CRM) will be contracted to conduct this study. CRM has extensive experience in helping schools access and use student outcome data for program and school improvement and has developed a Student Outcome Information System utilizing regional database software that generates student outcome profiles in forms that facilitate ease of use by school staff. This system also has the capability to relate student outcome data to a wide range of student and educational process variables.

***SECTION 7:***

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***SERIOUS EMOTIONAL  
DISTURBANCE  
AND  
BEHAVIORAL  
DISORDERS***

## Improving the Lives of Children: An SED Primary Prevention Project

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237F40012

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/98

### ABSTRACT

**PURPOSE:** The project will implement and assess interventions enabling schools to provide positively oriented instruction, curricula, and support services needed to prevent students receiving special education for emotional and behavioral problems from developing serious emotional disturbance (SED).

**METHOD:** The project will proceed over a 4-year period in three phases. During Phase 1—intervention refinement—project staff will identify concerns and form working intervention groups, and identify and develop instrumentation and specific tracking procedures for target students. To develop tracking procedures, staff will define students at risk for SED and describe a set of identifying predictors. Staff will also collect baseline data for comparison groups. Phase 2—intervention implementation—will focus on full implementation of various multienvironment interventions and on compiled data related to them. Intervention efforts will include screening and identification of target groups including those currently receiving special education services (N=100) and students identified as at risk (N=100). These students will come from backgrounds of poverty, live in violent neighborhoods, are likely to drop out of school, or are likely to develop high rates of school recorded behavior problems. Two hours of observation will be allotted for each participating student, through four 30-minute periods. In Phase 3—final follow-up and dissemination—project staff will complete evaluation, report data relevant to the change process, pursue ways to continue some interventions that require financial resources beyond what schools can provide, and develop easy-to-read manuals on guidelines and strategies for implementing various interventions in other elementary schools to prevent SED among students with emotional and social problems. Additional training will be implemented for school personnel, community agency personnel, family members, and others to broaden project impact.

**ANTICIPATED PRODUCTS:** This project will result in an increase in the number of least restrictive environments, and in specific documents usable by policy makers. This project will also improve prevention of SED among youth.

## **Project EXCELLENCE: Exceptional Children Enrolled in the Least Restrictive Learning Environments Made Notably Cost-Effective**

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GRANT NUMBER: H237B20025  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** This project addresses the problem of mainstreaming for children and youth with emotional or behavioral disorders by: (1) obtaining waivers for the finance structure and establishing alternative educational programs; and (2) developing, implementing, and monitoring individual student transition plans to least restrictive community environments during the implementation phase.

**METHOD:** A model planning process will be created, including the development of alternative funding patterns to encourage least restrictive environment placement, development of a transition planning process, and creation of a transition planning document. Four separate record-keeping documents will be maintained for grant administration, formative process assessment, summative objective evaluation, and individual student data. Staff will design appropriate interventions, primarily ecological/behavioral, at the hospital, at participating schools, and in receiving communities. Appropriate Individualized Education Plans (IEPs) will be generated for each student, and parents and families will be involved in both the planning and implementation of the project.

**ANTICIPATED PRODUCTS:** Written products documenting project activities and results will include a formal evaluation report, a more user-friendly replication guide, and articles by project staff to be submitted for publication in professional journals. Findings will also be presented at least one state-wide or national conference.

## **Enhancing Professional Knowledge, Skills, and Strategies: Project CROSS-Training**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H237D20001  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to improve services for children and youth with serious emotional disturbance by providing a comprehensive cross-training program to "postentry" administrators, teachers, and direct service providers.

**METHOD:** The training will include three innovative features: (1) a multidisciplinary approach focused across service delivery systems; (2) a peer training approach that allows local professionals to conduct training workshops and provide support to teachers and other service providers; and (3) a mechanism for encouraging "ownership" of the training and support model to decrease attrition and burnout. Through the use of a Delphi survey of 100 members of



the Council for Children with Behavior Disorders (CCBD), knowledge and skills needed by postentry personnel to enhance collaboration and improve services will be identified. A concept mapping technique incorporating salient skills technique will be employed to develop a cross-agency staff development model. Three studies will be performed to examine characteristics, propriety, and efficacy of the training. Finally, in order to investigate the effectiveness of training in decreasing burnout and promoting motivation and commitment, the program will perform a correlational study in which participation in training will be correlated with responses to survey items.

**ANTICIPATED PRODUCTS:** In addition to direct impact on participating professionals and their students, the project will gather and disseminate information on the project and its findings by means of conference presentations and publications. Dissemination products such as training manuals, implementation guides, and videotapes will be made commercially available.

### **School Preparedness for Promoting Personal and Social Development Project: TEACH**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237C20015

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to develop and test a school-based, proactive approach toward the personal and social development of elementary age students with emotional and behavioral problems.

**METHOD:** Outcomes related to social and personal development of elementary age students will be identified and defined. Planning teams of school and community personnel will reorient an elementary school to proactively promote students' personal and social development. A comprehensive school-based model will be developed that aligns mental health and educational services at each grade level, and the program will be implemented with children with emotional and behavioral problems in regular education settings. Assessment efforts will probe impact on students' personal and social development, long-term effects on one cohort of participants, and the feasibility of implementing the project in other elementary schools.

**ANTICIPATED PRODUCTS:** Teachers, parents, and community agency personnel are expected to benefit from the opportunity to work together in a coordinated service provision effort. Educational outcomes, measures, findings, and curricular designs will be disseminated nationally.

## **Enhancing Professional Knowledge, Skills, and Strategies to Improve Services to Adolescents with Serious Emotional Disturbances**

**PRINCIPAL INVESTIGATOR:**

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503-838-8775

GRANT NUMBER: H237D20010

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The objective of this project is the development of a functional work-oriented curriculum and service system for students with severe emotional disturbances (SED).

**METHOD:** At the start of each project year, staff will work at each of three school sites to identify staff and program development needs through an empirical decision-making process. Based on these findings, project staff will provide training to the school staff, direct experience in model vocational and transition projects, and ongoing staff support and consultation when personnel return to their schools' programs. An effort will be made to incorporate staff from community-based agencies (including mental health and vocational rehabilitation) from each locale, in the program development and service delivery efforts. A plan for program change will be developed at each site, and monies will be allocated in line with these plans. Thus, each site will develop a tailored secondary program for youth with SED that will be supported by project staff and resources.

**ANTICIPATED PRODUCTS:** The training procedures developed in this project and the results of the interventions will be summarized and disseminated in several forms. A procedural manual for school sites that want to revise their secondary programs will be developed, and staff will publish a monograph on results of the project. The project will also make use of varied dissemination channels (publications, presentations, newsletters) to insure that information on the project reaches the broadest possible audience, including parents, educators, and community agency professionals.

## **Investigation of the Institution-to-Community Transition Experiences of Adolescents with Emotional and Behavioral Disorders**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30049

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/98

### **ABSTRACT**

**PURPOSE:** The project will conduct a follow-along investigation of the institution-to-community transition of adolescents with emotional and behavioral disorders (EBD), who have been incarcerated for their extreme antisocial behaviors.

**METHOD:** Data on roughly 300 to 400 adolescents with EBD will be gathered on their release from institutional facilities in the state of Oregon. At referral, demographic, SES, level of service, and social skill rating forms will be completed on each person. Between 3 and 9 interviews will be administered to each individual by telephone at 6-month intervals. Interview questions will pertain to subjects' vocational, educational, social, independent living, and general community adjustment. Similar interviews will be administered to subjects' parent/guardian and probation/parole officers. Employment data will also be checked yearly with a state-wide database. Data will then be examined using logistic regression techniques and LISREL procedures to examine relationships among multiple predictor and outcome constructs.

**ANTICIPATED PRODUCTS:** The project hopes to establish baseline data on the adjustment of individuals exiting these institutions. The participation of key state level administrators is expected to substantially augment dissemination plans. By disseminating information on the findings and procedures employed in this project, the project hopes to instigate similar projects in other regions to improve the adjustment and quality of life among this population.

### **Designing Educational Support Teams Through Interagency Networks for Youth with Serious Emotional Disturbance (DESTINY-SED)**

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GRANT NUMBER: H237D30012

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

#### **ABSTRACT**

**PURPOSE:** This project will provide training and support for families and professionals in the fields of education, social work, and mental health to improve services for children and youth with serious emotional disturbances.

**METHOD:** In each of six communities, a research team from the Institute on Emotional Disabilities will work with the middle schools and the local Child and Adolescent Service Systems Program (CASSP) teams to collaboratively identify staff development needs. Staff development objectives will be phrased in terms of knowledge, skills, and strategies that project participants will be expected to use in their practice with professionals, students, and families. Particular objectives will focus on the areas of collaboration among project participants and on ways to apply knowledge, skills, and strategies. Student progress will be closely monitored through data on school attendance and involvement, social competence, and achievement, as well as by project staff and teacher rating scales, in-school record reviews, and responses from community agencies and parents.

**ANTICIPATED PRODUCTS:** Staff development is expected to motivate and empower participants to accomplish new goals in the workplace, and renew their commitment to achieve desirable outcomes for youth with serious emotional disturbances. By focusing on teachers and students in the middle school years, the project intends to impact on students' social and academic involvement in school and better prepare students for high school completion, vocational placements, and entry into productive adult living.

## **A Family-School-Community Alliance to Reduce Out-of-Community Placements for Students with Serious Emotional Disturbance**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237E20020

BEGINNING DATE: 11/01/92

ENDING DATE: 10/31/95

### **ABSTRACT**

**PURPOSE:** The goal of this project is to reduce out-of-community placements for children and youth with SED by developing and implementing a collaborative alliance between the family, the local special education association, and various social and mental health agencies.

**METHOD:** Major components of the comprehensive system of education and care to be developed will include: (a) the development of an interagency collaboration model comprised of representatives from parents and the primary educational, social, and mental health agencies in the community; (b) agreement on which students will be served, principles of care, and written joint agreements; (c) implementation of a comprehensive needs assessment of children, family, and service providers; and (d) development of a plan of action to design a comprehensive system. The system will be based on principles of individualized care and family involvement. Individualized care will emphasize unconditional care, intensive case management, individual planning teams, flexible funding, personal futures planning, and cultural competence, while family involvement will emphasize family empowerment and family services.

**ANTICIPATED PRODUCTS:** The project will create an adjunct committee of those interested in programs for children and youth with SED and will establish regular written communication with each group via a biannual newsletter. In addition, a series of working papers and position papers will be developed and made available to national organizations and clearinghouses of information; reports on project results will be presented at various professional meetings, and manuscripts will be submitted to appropriate journals.

### **Training Regional Interagency Staffing Teams**

**PRINCIPAL INVESTIGATOR:**

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Services Center, Inc.  
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815-756-2305

GRANT NUMBER: H237D30030

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** The purpose of this research project is to develop, implement, and evaluate a training program to prepare direct service providers and educators from various social service agencies to collaborate in serving students with serious emotional disturbances and their families.

**METHOD:** Interagency teams consisting of an educator, a mental health counselor, a social worker, a probation officer, a rehabilitation counselor, and a substance abuse counselor, will be trained to plan, implement, and monitor individualized treatment programs. Additionally, parents will be trained as part

of the interagency teams to serve as advocates for the students and their families. Team members will be trained to: (a) collaborate with service providers from other disciplines; (b) contribute to the development and implementation of intensive case management plans; (c) involve families via empowering parents; (d) be knowledgeable about information specific to local service agencies; and (e) be knowledgeable about a conceptual model of interagency collaboration.

**ANTICIPATED PRODUCTS:** Approximately 18 interagency teams will be trained over the course of the project's 3 years.

### **Investigation of Level Systems in Classrooms for Students with Emotional or Behavioral Disorders: A Quantitative and Qualitative Study**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40008

BEGINNING DATE: 5/01/94

ENDING DATE: 4/30/95

#### **ABSTRACT**

**PURPOSE:** This study will conduct a quantitative and qualitative analysis of the use and effectiveness of level systems in education classrooms.

**METHOD:** The study will examine what teachers believe to be hierarchies that produce the most desired outcomes and the range of procedural variation that allows for sufficient effectiveness. Researchers will also examine how behaviors of students acquired through level system technology have contributed to their success or failure in other environments. Perceptions of those who use level systems will be investigated and the extent of their satisfaction with the procedural outcomes, specified goals, objectives, and activities will be assessed. A survey packet will be developed to query teachers of students with EBD in Florida about the extent of use, purposes, components, and perceived effectiveness of level systems. Analysis of survey findings will be the foundation for further research on a case study level. Case studies of teachers and others who use level systems will consist of systematic field investigation through documentation, observations, and interviews. Finally, investigators will generate and evaluate a grounded theory of level systems from the empirical data of the case studies.

**ANTICIPATED PRODUCTS:** Descriptions of the project, details of findings, position papers, digests, summaries, fact sheets, news releases, and research reports will be written for dissemination of project findings via state and national professional conferences and related professional journals. The ERIC Clearinghouse and SpecialNet Electronic Bulletin Boards will provide telecommunications outlets for dissemination.

## Promoting Attention, Literacy, and Socialization (PALS) Among Students with Emotional/Behavior Disorders

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40001

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### ABSTRACT

**PURPOSE:** This project will use Adaptive Peer Tutoring to enhance the task engagement, reading achievement, prosocial behavior and quality of generalized peer interactions, social status, and degree of inclusion in mainstream settings for students with emotional/behavioral disorders (EBD).

**METHOD:** During the first year of this 3-year project, PALS staff will implement, formatively evaluate, and modify existing Adaptive Peer Tutoring methods to maximize their feasibility and efficacy for students with EBD. In Year 2, staff will develop additional training procedures designed to extend participating students' capacity to explain difficult materials to peers and to develop prosocial interaction styles. At this time, staff will also examine the added value of this component to existing Adaptive Peer Tutoring methods. In Year 3, project staff will develop Adaptive Peer Tutoring further and explore its efficacy for helping students with EBD make successful adjustments to general education reading classes. Staff members will contrast typical reintegration methods to those in which Adaptive Peer Tutoring is implemented in both special and regular education settings to facilitate the mainstreaming effort. During each project year, participating teachers (N=20) of students with EBD will implement treatments with all students in their classrooms and will identify study participants (N=120). Classroom observations during Adaptive Peer Tutoring will be conducted to assess the fidelity of treatment. Direct observation methodology will be employed during reading instruction to index task engagement and prosocial interactions. Videotapes of generalization sessions will be coded to evaluate quality of peer interactions. Staff will also use pre/post individual multidimensional assessments, peer sociometric ratings, and questionnaires to monitor levels of student interaction and achievement.

**ANTICIPATED PRODUCTS:** This project will result in modified Adaptive Peer Tutoring methods that specifically maximize benefits and feasibility for EBD students, extended Adaptive Peer Tutoring procedures designed to help students with EBD make successful transitions to general education, and a teacher training manual and video explaining the implementation of these enhanced Adaptive Peer Tutoring methods with EBD students in both special and mainstream reading instruction classes.



# **Task Demands Placed on Secondary-Level Students with Serious Emotional Disturbances by Content Area Textbooks: Effects on Academic Achievement and Maladaptive Behavior**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30019  
BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

## **ABSTRACT**

**PURPOSE:** The purpose of this project is to investigate the effects of content area task demands (specifically, content organization and instructional strategies) on the academic achievement and maladaptive behavior of students with serious emotional disturbances.

**METHOD:** Forty 8th-grade students diagnosed as having serious emotional disturbances who receive history instruction in self-contained or resource classrooms will serve as subjects for this investigation. A United States History text being developed at the University of Oregon will be compared to a traditional United States History text on behavioral and academic measures. Specific research questions will be as follows: (1) Is there a significant difference in student performance on measures of content area learning and maladaptive behavior between students who use a text that is carefully organized around main ideas and principles and students who use a traditional text? (2) Is there a significant difference in student performance on measures of content area learning and maladaptive behavior between students who use a text that is carefully organized around main ideas and principles with content-specific instructional strategies and students who use a traditional text with content-specific instructional strategies?

**ANTICIPATED PRODUCTS:** Findings from this research will build an empirical base for selection and implementation of content area texts and instructional strategies for students with serious emotional disturbances. The use of appropriate texts and strategies may enhance the likelihood of academic and behavioral success in schools for students with serious emotional disturbances. It will also enable teachers to design programs that focus on both students' behavioral needs and their academic needs.



## **Effects of Task Errors, Error Correction, and Errorless Learning on the Aggressive and Disruptive Behaviors of Students with Severe Behavior Disorders**

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GRANT NUMBER: H023B40050

BEGINNING DATE: 10/01/94

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** The project will investigate the effects of task difficulty and instructional variables on aggressive and disruptive behaviors by students who have severe behavior disorders.

**METHOD:** The study will use an alternating treatments design, replicated across four students, to examine: (1) the effects of predetermined task difficulty on the frequency of errors and aggressive/disruptive behavior, and (2) the relative effects of error correction by a least-to-most prompting strategy and an errorless learning via delayed prompting on aggressive/disruptive behavior under difficult task conditions. A continuous direct observation will be used to collect sequential data on teacher and student behaviors. Data will be transferred into computer event files, and the rates of each behavioral event will be calculated. Identification of the behavioral events most likely to precede or follow aggressive/disruptive behavior will facilitate the selection and/or modification of instructional strategies for students who exhibit such behavior when instructional demands are presented.

**ANTICIPATED PRODUCTS:** A manuscript reporting the project's findings will be prepared and submitted for publication to a professional journal. Two national conferences will also be targeted for dissemination activities. Research results will reach classroom teachers at local, state, and national levels through workshops, conference presentations, and through continuing education classes.

### **Project Belief**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023K0001

BEGINNING DATE: 9/01/90

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This project will address the problem of students labeled learning disabled and severely behaviorally disordered who drop out of school.

**METHOD:** The intervention strategies will consist of 2 years of intensive remedial reading and writing, culturally sensitive instructional procedures, matching with mentors, a 10-hour school day, self-esteem building, structured weekends, provision of case management support to the family for accessing needed social services, and structured summers. For those who desire to go to college, intervention will continue with a full mainstream program. For those who do not achieve this level, an apprenticeship program will be implemented.

**ANTICIPATED PRODUCTS:** The project will result in an increase in the number of target group students who graduate from high school.

## **An Ecobehavioral Approach for Assessment and Prevention of Behavior Disorders for Young Children and Their Families**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237E20034

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to address the critical needs of students from impoverished backgrounds through investigation of an early prevention and intervention program for children living in poverty, including minority groups, who exhibit serious behavior and conduct disorders.

**METHOD:** The approach to be used focuses on the use of an ecobehavioral assessment model to research the components of an early prevention and intervention program via: (a) systematic observation of child-parent, child-teacher, and child-peer interaction; (b) analysis of variables contributing to patterns of antisocial and inappropriate behavioral patterns; and (c) the measurement of long- and short-term treatment effects. Family-focused components of the early prevention program include parent training and support in positive parent-child relationships, behavior management strategies, social skills building, parent-supported learning via priming and tutoring procedures, and networking with community agencies for necessary services. Peer-focused components include procedures to improve both social competence (through social skills training with peers and classroom management) and readiness to learn (through peer-mediated learning groups and survival skills training). Involved in the investigation, will be 150 students, drawn from an inner-city area of Kansas City, KS, with a large representation of families in the low socioeconomic area and minorities. Experimental procedures will include the identification of target and control families; training, implementation and evaluation of treatment effects; ecobehavioral assessment and analysis; a comprehensive battery including multiple measures; continued evaluation across subsequent project years to determine child/family outcomes; and national dissemination.

**ANTICIPATED PRODUCTS:** Dissemination of project results and products will include presentations at state and national conferences; written reports for specific parties, organizations, and networks; submissions to professional publications; and incorporation into university coursework.

## **Development and Support for Enhancing Professional Knowledge, Skills, and Strategies**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237D20005

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** This project will develop, implement, and evaluate training activities to support the Child and Adolescent Service Systems Program (CASSP) in providing training activities for teachers of children with serious emotional disturbance.

**METHOD:** A project coordinating committee will be established to facilitate implementation of the project activities, to monitor progress on project goals and objectives, and to assure administrative support and involvement in the process. Two days of inservice training in an action research model will be provided, and through the action research process a plan will be developed to collect and synthesize existing data, as well as new data concerning training needs, attrition, and burnout. The action research process will be extended to develop, implement, and evaluate an inservice training plan for 8 additional days of training, including data collection concerning skill acquisition and outcomes related to service provision.

**ANTICIPATED PRODUCTS:** Materials for dissemination will include: (a) a model for developing a needs assessment, implementation plan, and evaluation; (b) materials generated as a result of the inservice training; (c) resource list for inservice training; (d) a dissemination plan; and (e) summaries of outcomes and impact of the project in total.

### **Project SUCCESS: Preventing the Development of SED Among Children with Emotional and Behavioral Problems**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237F40022

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/98

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to conduct research into the prevention of the development of Serious Emotional Disturbance (SED) in elementary school students with behavioral and emotional problems through intervention based on multidisciplinary literature.

**METHOD:** In the first of 4 project years, staff will finalize the case study "best practices" theory and scenario, develop the case study protocol and pilot the protocol. The pilot test will include interviews with kindergarten teachers and the review of specific documents for relevance. Staff will then plan and conduct inservice training for participating teachers and other school personnel. During this year, staff will also screen students in each participating school, collect and analyze data, evaluate and manage the project, and work to collaborate

with other SED projects. During the following 3 project years, staff will conduct assessment of family needs and strengths of families of at-risk children and will conduct functional assessments through interviews. Staff will ask teachers for their perceptions of the environmental conditions under which at-risk children in their classes display desirable or undesirable behaviors. Interviewed teachers will begin testing hypotheses developed on the bases of functional assessment interviews. Staff will then develop Family Service Plans (FSPs) and implement the educational child-centered components and the family-focused components. Once FSPs have been implemented, staff will collect and analyze case study data using the case study protocol developed in Year 1 and analyze school records/accumulative folders for at-risk children in grades 1 and 2. Staff will also survey comparison schools about identification of SED in 1st and 2nd grade children and will collect data on personal and social attributes on the Student Self-Concept Scale (SSCS), Social Skills Rating System (SSRS), Classroom Behavior Inventory (CBI), and peer ratings and nominations (PRN). Finally, staff will disseminate results and work further to collaborate with other Office of Special Education (OSEP) projects.

**ANTICIPATED PRODUCTS:** Project SUCCESS will result in a validated model for: (1) identifying students with such serious emotional and behavioral problems that they are at-risk for SED; (2) conducting functional assessments of at-risk children; (3) developing classroom interventions; (4) coordinating multiple services based on family strengths/needs; and (5) ensuring the delivery of culturally competent services to students and their families.

### **Developing Interagency Collaboration Skills for Transition of SED Students to Less Restrictive Environments**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237D20006  
BEGINNING DATE: 1/04/93

ENDING DATE: 1/03/96

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to design, implement, and evaluate the effects of a training program to develop knowledge, skills, and strategies for collaboration between education and social service personnel in the transition of 16 students with serious emotional disturbance (SED) to less restrictive educational settings.

**METHOD:** A competency-based training program will be developed and implemented with 20 regular education, special education, related services, and social services personnel. During each training session, material and concepts will be illustrated with videotaped vignettes, practice exercises will be presented for role playing, and participants will view video playbacks of examples of their positive performance. The program will then evaluate the effectiveness of this staff development methods in promoting acquisition of collaboration skills and the generalization of those skills during interagency team meetings to coordinate services for the transition of SED students. In addition, the program will assess outcomes of collaboration on improved services and on professionals' motivation and sense of empowerment.

**ANTICIPATED PRODUCTS:** In addition to directly providing services to students with SED, the program will contribute to a greater understanding of the knowledge, skills, and strategies underlying effective collaboration. Project findings will be disseminated via reports to consumer groups, publication of articles and a multimedia training package, and a conference sponsored by the Devereux Foundation.

### **Improving the Interactive Teaming Skills of Professionals and Family Members Serving Children and Youth with Serious Emotional Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237D30059

BEGINNING DATE: 6/10/93

ENDING DATE: 12/31/95

#### **ABSTRACT**

**PURPOSE:** This project is designed to develop and validate an innovative approach to the support and inservice training of professionals and families who are engaged in the planning and delivery of interagency community-based treatment to children and youth with serious emotional disturbances (SED).

**METHOD:** The project will improve community-based service delivery to children with SED and their families through the development and validation of inservice training packages that focus on interactive teaming. In reaching this goal, the project will address the following process objectives: team development issues faced by professionals and family members serving this population and support needed for effective team functioning will be identified; training modules for professionals and parents will be developed and validated; formative and summative evaluations will be conducted on the effects of training; and two members from each Regional Interagency Council will receive training in the implementation of training modules.

**ANTICIPATED PRODUCTS:** Validated training modules will be disseminated throughout Kentucky for implementation with parents, and the use of these training modules (as well as their impact on interagency child service planning team functioning) will be evaluated. These modules combined with the inservice training components will serve to significantly advance Kentucky's agenda of systems change initiatives to create an infrastructure to better support children with SED and their families.

## Assessment of Project High Need: A Model Inservice Training and Service Delivery Program for Children with Serious Emotional Disturbances

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BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** The overall goal of this project is to assess the outcomes of Project High Need for meeting the academic, class department, and social needs of children identified as having serious emotional disorders (SED) and those at risk of developing such disorders.

**METHOD:** The primary population under study will be elementary-aged children identified as having serious emotional disorders and those children at risk for school failure at six target schools. Repeated measurement outcomes will be made on the following outcome and implementation measures: (a) observations of children's academic, social, and class department; (b) observations of teachers' instructional interactions with children; (c) observations of the implementation of prescribed interventions; (d) children's report cards; (e) weekly pre/post-tests on academic subject content areas; (f) IEP progress reports; (g) achievement test scores for primary academic subject content areas; (h) frequency of suspensions, rule infractions, and detentions; (i) self-concept and class department measures; and (j) satisfaction of teachers, principals, parents and children with outcomes and procedures. In addition, a common set of subject characteristic data will be collected to probe demographic and other variables that might predict the degree of change obtained through the treatment package.

**ANTICIPATED PRODUCTS:** The program will expand knowledge of effective strategies to increase positive child-family interaction and increase family-school partnerships in the education of children with serious emotional disturbances and those at risk. Effective strategies for improvement of services to children with SED through interagency collaboration and the integration of mental health practices throughout the school environment will be developed. Reports and papers describing the project and its research findings will be delivered to regional and national resource centers and clearinghouses. Two to four project-related manuscripts will be published in peer-reviewed journals and presented at professional conferences. At least two workshops per year will be presented at school districts outside the immediate region.



## Collaborative Responsibility Empowering School Teams (CREST)

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H237D30069

BEGINNING DATE: 6/10/93

ENDING DATE: 6/30/96

### ABSTRACT

**PURPOSE:** The project will test the value of the CREST model as an effective school-based approach to training school and community staff to meet the needs of students with serious emotional disturbances and behavioral disorders.

**METHOD:** The CREST Project is a comprehensive 3-year program to support the total school staff of 21 schools in developing and using knowledge and skills to respond to all students in a constant and predictable manner. The project's purpose is to enhance and promote students' growth and well-being and allow students with serious emotional and behavioral problems to remain in their community schools. Major training components support school staff in using community and school resources in the following fields of focus: (1) developing and implementing school-wide discipline policies and procedures; (2) teaching and maintaining positive classroom behavior and social skills; (3) designing, implementing, and evaluating interventions for students with SEDS; (4) developing ongoing support systems for the school model to ensure refinement and maintenance as school ecology changes.

**ANTICIPATED PRODUCTS:** The project will use descriptive methods to document the development of each school's CREST program as they refine and maintain the model over time. These descriptions will then provide the basis for further research into the factors that help schools sustain the ability to meet the needs of students with a wide range of behavioral and emotional differences.

## Comparing Experiential Inservice and On-site Consultation to Increase Inclusionary Practices for Students with SED

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BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

### ABSTRACT

**PURPOSE:** The purpose of this project is to compare two unique approaches to increase the skills and applications of interventions for effective inclusion of students with serious emotional disturbance (SED) in regular education classrooms.

**METHOD:** In this 3-year study, personnel from 24 school districts will be trained through a combination of experiential inservice training and on-site consultative support provided by staff from an approved private school for children with SED. Participating school districts will be required to identify teams of three district personnel including a regular education teacher, special education teacher, and related services personnel. Districts will be randomly assigned to one of three conditions (Experiential Inservice/Immediate Consultation;



Experiential Inservice/Delayed Consultation; and Wait-List Control Group.) Outcomes measures repeated at specific points of the study will include quantitative and qualitative measures of content and process.

**ANTICIPATED PRODUCTS:** Results of this project are expected to provide empirical examinations of training methods that may be possible for increased collaboration between other approved private schools and public school districts. Additionally, the project should provide careful analysis of the potential impact of such training methods on the knowledge, skills, and attitudes of school personnel working within regular education settings.

### **Analysis and Development of Teacher's Interactions with Children and Youth with Severe Behavior Disorders**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20138  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** The project will: (1) investigate the effects of four general classroom management strategies on interactions between teachers and students with severe behavior disorders; (2) develop and evaluate training packages based on the strategies that lead to increased reciprocal and decreased coercive interactions; and (3) provide for evaluation of project goals and objectives and broad-based impact of project findings through dissemination activities.

**METHOD:** The methodology will include direct observation of teacher/student interactions in 25 classrooms for students with severe behavior disorders. From these observations, teachers with low rates of positive interactions will be invited to participate in five single subject studies. Independent variables for the single subject studies will include general classroom management strategies of classroom organization, classroom rules, teacher traffic patterns, and token reinforcement systems. In the fifth study, all of the strategies will be combined to form the intervention. An observation system will be implemented that allows for recording of teacher student interaction in sequence and identification of positive and coercive interaction patterns. In addition, each study will include measurement on other dependent variables such as student disruptive behavior, teacher movement patterns, student positive behaviors, and others as needed to analyze the effects of the experiments.

**ANTICIPATED PRODUCTS:** Results will be used for an inservice workshop for teachers of students with severe behavior disorders. Each individual study will be submitted for publication, and project activities will be presented at professional meetings as data become available.

## **Adversive Stimuli Within Academic Interactions: Implications for Students with Severe Behavior Disorders and Their Teachers**

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GRANT NUMBER: H023C30071

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** This project will identify potentially adversive stimuli that occur within the academic instructional process.

**METHOD:** Major program goals to be explored through a series of specific experiments include: (1) assessing the appropriateness of the level of academic materials used in classrooms for students with severe behavior disorders; (2) identifying through direct observation and experimental verification escape- and avoidance-motivated behavior associated with academic materials; (3) identifying through direct observation and experimental verification escape- and avoidance-motivated behavior associated with teacher/student instructional interactions; and (4) identifying through direct observation teacher escape- and avoidance-motivated behavior.

**ANTICIPATED PRODUCTS:** Project findings will be disseminated through research reports, teacher guidelines, and conference presentations. Anticipated findings will both document current uses of negative reinforcement within the instructional process and examine the potential of negative reinforcement in therapeutic applications.

## **Commonwealth Institute Project (CIP): Improving Services for Children with Serious Emotional Disturbance and Their Families**

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BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/95

### **ABSTRACT**

**PURPOSE:** This project is designed to interface with existing state initiatives mandating the development of community-based alliances that promote collective responsibility and support for children with serious emotional disturbances (SED) and their families in Virginia.

**METHOD:** While the recent trend in service delivery has been to provide multidisciplinary services to children rather than families, this project focuses on the provision of family-friendly services within the context of community-based, family-centered services. The project will request initial and continuing guidance from an advisory board consisting of members representing parents, schools, community service providers, inpatient child psychiatric hospitals, researchers, state-level administrators, and city officials. New baseline and outcomes measurements for evaluating family-friendly services will be developed and used to identify needed improvements in the current service delivery system.

After a period of focus on strengthening interagency collaboration for the provision of community-based, family-centered services, a plan for implementing family-friendly services will be developed, implemented, and evaluated.

**ANTICIPATED PRODUCTS:** Two guidebooks will be developed, one for children with SED and one for their parents to assist with understanding the nature of emotional and behavioral problems of the children, services available, etc. A separate manual will be developed detailing the methods and procedures for establishing a service delivery system that is family-friendly in nature.

### **Interactions of Special Education and Foster Care Placements: Effects on School Performance**

GRANT NUMBER: H023B40029  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This project will pursue a clearer understanding of the relationship between foster care and school performance of students in special education.

**METHOD:** Researchers will draw a sample of 40 children in foster care, ages 12 through 15 years, who are also receiving services in special education for the seriously emotionally disturbed. This sample will be matched with 40 subjects who are in foster care but not special education, and 40 who are in special education but not foster care. Samples will be matched for socioeconomic status, race, gender, age, and IQ. Predictor variables will include achievement, retention, daily attendance, number of schools attended, discipline, and number of foster placements. Discriminant analysis and multiple regression analysis will be used to examine the results and determine factor relationships.

**ANTICIPATED PRODUCTS:** Dissemination of project results in the form of articles in professional journals and presentations at professional conferences will alert those involved in providing these services to the differing needs of the students they serve, thereby influencing the success of these services.

### **Teaming to Promote Psychosocial Development of Students with Serious Emotional Disturbance**

GRANT NUMBER: H237C20020  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** The goal of this project is to contribute to a restructuring of public education in Hawaii so that it proactively promotes the psychosocial development of all students with particular attention paid to the individual needs of students with behavioral and emotional disturbance.

**METHOD:** The project is designed to combine two state-of-the-art conceptual orientations (outcomes-based education and local community control of schools) in a teaming process to undertake school program improvement activities with

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guidance and support by project personnel. The project will be undertaken cooperatively with Oahu's Central School District, which is contributing the services of two half-time resource teachers as well as other support. Restructuring teams will be established at an elementary, an intermediate, and a high school, and a coordination team will serve to ensure smooth transitions for students with behavioral and emotional problems, including those with serious emotional disturbance, between the school levels and from high school into post-school settings.

**ANTICIPATED PRODUCTS:** A wide range of products will be developed, including the mission statements and desired outcomes of each planning team, the proposed program revisions and action plans of each team, new/revised curricula, evaluation reports, a replication package, and journal articles and conference presentations. Evaluation and demonstration results will also be disseminated through journal articles, testimony at legislative hearings, and presentations at conferences dealing with relevant issues.

### **Multistage Assessment of Aggressive Behavior**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N30025

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

### **ABSTRACT**

**PURPOSE:** The project will implement and evaluate a multistage, multivariate assessment protocol for identifying variables motivating aggressive behavior problems exhibited by students with serious emotional disturbances (SED).

**METHOD:** Key factors hypothesized as contributing to aggressive behavior will include: a social skills deficit; positively or negatively reinforcing consequences; deficits in the cognitive processing of social stimuli; and environmental deficits. The first project phase will implement the multistage, multivariate study involving 150 children with SED, incorporating screening measures and a comprehensive assessment of variables associated with aggressive behavior. In Phase 2, the program will develop appropriate interventions based on the assessment information. These interventions should yield information on the validity of assessment procedures and shed light on the interaction between key hypotheses of the functional model. Four intervention studies using single-case methodology will be employed.

**ANTICIPATED PRODUCTS:** Project methodology and results will be described in papers for publication to research-oriented journals. Inservice workshops and consultation activities will be provided to promote dissemination to practitioners, as will a comprehensive report of project findings.

## **Transition to Adult Life for Secondary Age Students with Emotional Disturbance**

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GRANT NUMBER: H023C00054

BEGINNING DATE: 9/01/90

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This project will evaluate the effectiveness of restrictive and non-restrictive settings in preparing students with emotional disturbance for adult life.

**METHOD:** The project will add to the current knowledge base regarding the postschool adjustment of students with emotional disturbance who access secondary education programs in settings that vary on the integration to segregation continuum of service options. The project will identify relationships between student-centered and school experience variables and the level of postschool adjustment of students with emotional disturbance.

**ANTICIPATED PRODUCTS:** The research findings will be disseminated by offering recommendations for programmatic revision based on the results of the research, assisting in the institutionalization of the proposed student tracking model in the research settings, and developing and disseminating guidelines for implementation of the model in settings across the country.

***SECTION 8:***

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***SEVERE  
DISABILITIES***



## Escalating Sequence of Problem Behaviors: Analysis and Intervention

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GRANT NUMBER: H023A30098  
BEGINNING DATE: 10/01/93

ENDING DATE: 3/31/95

### ABSTRACT

**PURPOSE:** This project will empirically document and disseminate a theoretical framework for supporting students with severe developmental disabilities and multiple problem behaviors that occur in an escalating sequence from low to high level intensity.

**METHOD:** The project will demonstrate that controlling variables can be identified and manipulated to eliminate behavioral escalations and to understand the hierarchical organization of the escalating sequence. Data collection and analysis will occur within a single-subject reversal design involving four participants from the local school district who exhibit multiple problem behaviors that appear to occur in an escalating sequence. Data analysis will allow staff to: (1) document the escalating sequence of problem behaviors; (2) document a functional relationship between discriminative stimuli and problem behaviors; and (3) establish the role of response effort in the hierarchical organization of the escalating sequence.

**ANTICIPATED PRODUCTS:** This research has the potential for significant impact through implementation of behavioral assessment and programming strategies for supporting students with escalating sequences of problem behaviors through at least two direct outcomes: (1) advancement in the knowledge base of the organization and measurement of escalating response sequences; and (2) improvement in clinical practice for supporting persons with escalating response sequences utilizing positive support strategies.

## Improving Language Learning Disabilities Using Naturalistic Teaching Procedures

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GRANT NUMBER: H023C30070  
BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This study will experimentally test the efficacy of integrating language and speech intelligibility training using naturalistic procedures for students with severe disabilities in full inclusion settings.

**METHOD:** In the first project year, staff will carefully evaluate efficacy of targeting improved sound production during naturalistic language teaching and directly compare results to baseline levels of training implemented using traditional pull-out, analogue procedures with settings held constant across training procedures. In years 2 and 3 the naturalistic conversation training will be provided as an integral part of the regular language curriculum, and comparisons on social validation assessments of children's language and social gains will be obtained in integrated school, community, and home settings in order to determine whether

naturalistic and analogue drill-based procedures differ with regard to generalization of targeted structures to various social contexts and with regard to any differences in impact on social skills and disruptive behavior.

**ANTICIPATED PRODUCTS:** These studies will be directly replicated in the Nashville Metropolitan School District in Tennessee and the Santa Barbara County Schools in California. Teaching improved speech intelligibility using naturalistic conversation training is expected to prove highly effective in training generalized speech production skills; in turn, this will lead to rapid and generalized improvements in language and social skills as well as reductions in disruptive behavior among students with severe disabilities. The naturalistic procedures explored are also expected to prove significantly more cost-effective than existing pull-out models.

### **Expanding Behavioral Momentum: Linking High-Probability Requests and Peer Interactions to Promote Skill Acquisition and Generalization in Young Children with Severe Disabilities**

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GRANT NUMBER: H023C30089

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/98

#### **ABSTRACT**

**PURPOSE:** The project will expand previous work in behavioral momentum by embedding the high-probability request sequence into peer social interactions, then using these sequences to promote social, motor, communication, and self-help skills.

**METHOD:** Participants in the research will be young children with severe disabilities. Across the various studies proposed here, the children will be identified as: (1) socially withdrawn or isolate; (2) experiencing substantial motor impairments that limit their abilities to reach, grasp, manipulate objects, maintain head control, or move through space; and (3) lacking in expressive communication systems, and/or lacking functional and important self-help skills. Observational research methods combined with a series of multiple baseline designs will be used to examine and evaluate the effects of the momentum interventions. Outcomes measured across the series of studies will include each participant's performance of high and low probability requests including: (a) social interactions; (b) motor actions; (c) communication responses; and (d) self-help skills.

**ANTICIPATED PRODUCTS:** Results of individual studies will be used to develop an empirically-based, socially validated curriculum that can be used by professionals and parents to teach children with severe disabilities across settings and developmental domains. Dissemination activities planned include manuscripts describing research results for publication in professional journals, conference presentations, employment of the Educational Resource Information Center (ERIC), and a training manual to facilitate replication.

## Self-Managed Exercise and Stereotypy Project

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GRANT NUMBER: H023N3(XX)1  
BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will study both the relationship between exercise and aberrant behavior and the methods by which persons with severe disabilities can self-manage exercise routines.

**METHOD:** Across 3 years, approximately 20 students, ranging in age from 10 to 21 years and receiving services as severely mentally retarded or autistic, will attend exercise sessions, four to five times weekly as part of their school program. Modes of exercise will include electronic treadmills, exercycles, and walking. Measures will be maintained on amount and types of exercise, level of independence on various components of exercise routines, heart rate during exercise, resting heart rate, frequency and duration of aberrant activity, and proportion of time in behavior states. Participants will also receive formal cardiovascular assessments and a field-based treadmill test twice yearly. Analyses of daily behavioral measures and pre/post fitness measures will be compared.

**ANTICIPATED PRODUCTS:** This project has the potential to contribute to broad areas of interest, including: theoretical and applied study of aberrant behavior; implementation of self-managed fitness routines for persons with severe disabilities; the development of reliable cardiovascular fitness assessments, and the long-term effects of exercise and increased fitness on behavior and behavior states. Project findings, strategies, and methodology will be disseminated via papers for publication, presentations at national conferences, and workshops and other inservice training opportunities.

## The Promise of Adulthood for Individuals with Severe Cognitive Disabilities: A Qualitative Research Project to Improve Transition Planning and Support

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GRANT NUMBER: H023N20(0)26  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This 3-year project has as its primary objective the refinement of our understanding of how to interpret the meaning of adulthood in the lives of individuals with the most severe cognitive disabilities.

**METHOD:** The project will conduct three distinct strands of inquiry. Strand 1 will be largely descriptive in nature and will focus on the generation of a set of "grounded theories" about the cultural interpretation of adulthood in the lives of individuals with severe and profound cognitive disabilities. This study will rely on open-ended interviews, participant observation, and a small number of in-depth case studies for data collection. Using focus group discussion and "action research" techniques, Strand 2 will move from description to application by exploring whether and how

the deepened understanding and interpretation emerging from Strand 1 can be used by teachers and families to prepare and support adolescents with severe and profound disabilities to achieve more fully the cultural promise of adulthood. Finally, Strand 3 will reflectively examine the methodological issues raised within the previous strands as they apply to the larger possibilities of producing qualitative/interpretivist research that is both conceptually rich and educationally useful for people with severe cognitive disabilities. This final strand will use the techniques of reflective journals and qualitative evaluation.

**ANTICIPATED PRODUCTS:** A socially validated, teacher/parent-designed strategies module will be developed to incorporate the project's expanded understanding of the dimensions of adulthood in an applied approach to transition planning and family support for life after school. Separate research reports will be generated for each strand, and reworked versions of these basic reports will be prepared for family and practitioner publications. Results will be presented to local and state family and consumer groups, as well as local, state, and national professional conferences.

### **Systematic Instruction of Persons with Profound Disabilities (Project SIPP)**

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GRANT NUMBER: H023C40115

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

#### **ABSTRACT**

**PURPOSE:** This collaborative effort between the University of Georgia and the Gwinett County Public Schools will study the effectiveness of instructional strategies for students with profound cognitive disabilities. The project will study more-to-least prompts and graduated guidance, and develop a manual for service providers on effective instructional strategies for students with profound cognitive disabilities.

**METHOD:** Subjects will be students with profound cognitive disabilities who presently attend integrated school programs. Four to six students will be included in each investigation. Data will be collected by the students' teachers under the supervision of Project Staff. A multiple baseline or multiple probe design will be used in the investigations. Data will be collected on acquisition, fluency, generalization in both instructional and home environments, and maintenance of the objectives. Data collected will be type and number of prompts given, frequency of correct independent responses, trials to criterion, errors to criterion, instructional time to criterion, response latency, response duration, and criterion for mastery. To complete project investigations, staff will select participating students, sites, and teachers, conduct analyses within activities for selection of basic developmental skills to be taught, train teachers and implement experimental procedures, interview parents to ascertain if the child has increased his or her level of partial participation in family routines, and disseminate results. Staff will then develop a manual that describes: (1) the results of investigations; (2) the effectiveness of the strategies; (3) considerations in choosing prompts and reinforcing contingencies; (4) variables for deciding when to change prompts; and (5) considerations for the generalization of skills. The manual will also describe the results of generalization probes into the students' homes.

**ANTICIPATED PRODUCTS:** This project will result in a module summarizing investigation results for special education teachers that will provide a format for faculty to teach teacher trainees relevant information about effective instruction for students with profound cognitive disabilities and a manual that will help special education teachers teach these students as well.

## **Facilitating Phonemic Awareness in Students with Severe Speech and Physical Impairments**

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GRANT NUMBER: H023B40043

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This project will demonstrate that students with severe speech and physical impairments resulting from cerebral palsy can be taught to demonstrate the auditory segmentation of spoken words into their constituent phonemes, one type of task commonly used to operationalize the concept of phonemic awareness.

**METHOD:** The project will use single-subject methodology by combining a multiple probe design across behaviors with a multiple probe design across subjects. Eight students with severe speech and physical impairments will be selected from six public elementary schools. Data analysis will be done through visual inspection of the data, which will be continuously plotted for each subject's behavior. The effect of treatment will be demonstrated by a stable baseline (near zero) and a clear, stable increase in correct responses on the phoneme segmentation task. Generalization probes will be conducted to see if and when the blending skill emerges as the subject is taught the four phonemic segmentation behaviors.

**ANTICIPATED PRODUCTS:** The research will add to the knowledge of techniques for improving reading instruction for children with severe speech and physical impairments by using an adaptation of a phonemic awareness intervention that has been demonstrated by research to be successful in use by children without disabilities. In addition, this study will determine whether acquisition of one kind of phonemic awareness will generalize to performance of another kind of phoneme awareness. This knowledge will not only add to the current understanding of the relationship between phonemic awareness tasks, it will also provide information about the efficiency of the intervention to practitioners.



## **Predictability and Choice as Elements of Effective Behavior Support**

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GRANT NUMBER: H023A30093  
BEGINNING DATE: 10/01/93

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** This project will improve the instructional options available to teachers and families of students who perform problem behaviors, focusing on a systematic analysis of the roles "choice" and "predictability" play in complex behavioral support plans.

**METHOD:** A concept paper will be developed to define the relationship between curricular interventions of choice and predictability and severe problem behavior. Experimental analysis will examine the independent and combined relationship between predictability and choice on severe problem behavior. Three school-aged children with severe disabilities will be selected as subjects for having displayed behaviors to include self injury, aggression, and/or property destruction. Problem behaviors will be videotaped during 15-minute sessions; frequency and duration of behaviors will be recorded by trained observations using laptop computers. Results will be graphed and visually analyzed using criteria for a reversal design. Separate phases will integrate choice and predictability factors into IEP activities determined to be associated with escape motivated behavior. Teacher rates of prompt and praise will also be measured as contributing factors.

**ANTICIPATED PRODUCTS:** Major outcomes will include: a concept paper discussing the theoretical framework of choice and predictability; a research study on the effectiveness of the independent and combined effects of choice and predictability on severe problem behavior; and a teacher guide depicting and emphasizing the adaptability of choice-making in instructional settings.

## **A Longitudinal Study of Generalization and Maintenance in Integration Settings for Students with Autism**

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GRANT NUMBER: H023C30055  
BEGINNING DATE: 7/01/93

ENDING DATE: 6/30/98

### **ABSTRACT**

**PURPOSE:** This project will continue previous investigations of procedures for mainstreaming and integration of children with autism.

**METHOD:** Project objectives include: (1) longitudinal ecobehavioral analysis of existing integration programs for students with autism including identification of successful components and/or weaknesses; (2) building upon these findings to carefully plan generalization studies to increase integration time and success; (3) replication studies for effective generalization strategies with follow-up; (4) pilot studies in middle schools including environmental assessments,

integration, and generalization studies. These goals have been designed to extend current integration technology, to expand the knowledge base to include generalization procedures, to investigate self-monitoring and continue documentation of peer-involved activities in integrated environments, to provide middle school demonstrations, to monitor program effects in the areas of academic, social, and behavioral competence for students with autism and their peers, and to disseminate findings to improve the quality of life for all students.

**ANTICIPATED PRODUCTS:** These studies and databases will provide a much needed evaluation of current and progressively improving integration technology. Continuation of current research objectives is required to define a model, determine variables congruent with successful implementation, provide additional strategies to the knowledge base, address the issue of generalization of procedures, determine long-term effects and outcomes, and explore dissemination and training methods that ensure future adoption.

### **Exemplary Practices to Develop the Communicative Competence of Students Who Use Augmentative and Alternative Communication**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N20010

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/95

#### **ABSTRACT**

**PURPOSE:** The purpose of this study is to conduct investigations that will identify skills that contribute to the communicative competence of students using augmentative and alternative communication (AAC) systems.

**METHOD:** Five studies will be conducted to investigate effects of specific student skills on naive and experienced observers' perceptions of the communicative competence of the AAC user. The efficacy of instructional techniques to promote the development of communicative competence will be investigated through three studies employing single subject experimental designs. Three instructional modules will then be developed that describe exemplary practices in promoting communicative competence among AAC users.

**ANTICIPATED PRODUCTS:** The project will initiate a line of research by establishing appropriate methodologies, developing valid and reliable measurement tools, and solidifying collaboration among consumers, families, educators, service providers, and researchers. Dissemination of findings will be conducted through notices of the availability of the instructional modules, direct mailings to practitioners, and direct mailing to programs involved in preservice training of professionals.



## Rethinking Social Interventions for Young Children with Autism

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C40113

BEGINNING DATE: 9/01/94

ENDING DATE: 8/30/97

### ABSTRACT

**PURPOSE:** The project will extend knowledge of environmental and other influences on the social behavior of students with autism by incorporating information on naturally occurring behaviors.

**METHOD:** A series of conditional probability analyses will be conducted to examine environmental relationships that correspond to the display of crucial social behaviors in students with autism. Findings on normal developmental trends in peer interactions will suggest additional educational goals, and comparisons of typical and atypical development will have implications for the design of instructional procedures that will better generalize and maintain. A set of observational conditions will be specified in a protocol that will permit more efficient assessment of children's peer-related social behavior. The assessment format will be validated via comparison to an extensive naturalistic database. The resulting product should prove useful to early intervention specialists and preschool educators, as well as to researchers. Functional analyses will be conducted to determine whether the social interests delineated in the individual descriptive analyses can be used to control improved social responding. The experimental conditions will be educational interventions that make use of children's social interests as reinforcers, and that incorporate information on environmental influences of successful social behavior.

**ANTICIPATED PRODUCTS:** Research findings will be packaged in user-friendly formats, and advance arrangements will be made for on-request conversion to large print, Braille, or audio cassette. The primary dissemination path will highlight hands-on training of developing autism specialists.

### The Inclusive Education Project

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20212

BEGINNING DATE: 8/01/92

ENDING DATE: 7/31/96

### ABSTRACT

**PURPOSE:** This project will conduct a longitudinal investigation of processes and outcomes in regular education classrooms where students with moderate and severe disabilities are enrolled full time.

**METHOD:** The project will begin with an open-ended qualitative study focused on 12 students with moderate or severe disabilities during the first year; the study intends to clarify and refine hypotheses regarding key study questions and objectives. Year 2 will focus on the development of quantitative measures of classroom processes and student outcomes that are sensitive to variance in the parameters described through the initial qualitative study, and the number of

participants will expand to 24. Years 3 and 4 will entail ongoing follow-along of students participating in the project, as well as intervention research aimed at increasing implementation of practices in regular classroom environments that have been identified as contributing to positive outcomes.

**ANTICIPATED PRODUCTS:** This project will provide data to demonstrate outcomes for students with disabilities and students without disabilities participating in full inclusion programs. Program and teacher characteristics associated with specific outcomes will be identified. Interventions aimed at modifying aspects of classroom environments hypothesized to affect outcomes will be developed, and a variety of quantitative measurement strategies with high social validity will also be developed.

### **Coercive Ecologies: An Analysis of Interactions Between Staff and Students with Severe Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30046  
BEGINNING DATE: 10/10/93

ENDING DATE: 3/31/95

#### **ABSTRACT**

**PURPOSE:** This project will analyze the potentially coercive relationship between students having developmental disabilities and severe problem behaviors, and support staff in residential and school contexts.

**METHOD:** Specific project objectives are to: (1) prepare a concept paper defining the theoretical logic connecting coercive ecologies and severe problem behavior; (2) conduct a descriptive analysis of the extent to which Patterson's model of coercive behavior applies to the severe problem behaviors of students with severe disabilities and their support staff; (3) disseminate project findings; and (4) manage and evaluate ongoing project activities. Six students with developmental disabilities and severe behavior problems and six support staff will participate in the study. Following individualized assessment, short observation sessions across relevant settings will be conducted to verify the occurrence of escape and avoidance behavior when students are presented with tasks that imply either high or low probabilities of such behavior. Problem behaviors in natural settings will also be analyzed and taken into account in functional analyses of behavior data.

**ANTICIPATED PRODUCTS:** Findings from this project are expected to provide theoretical support for the application of Patterson's model of coercive behavior to the interactions of students with severe disabilities. Practical implications of these results will extend to: (a) procedures for completing functional assessments of problem behaviors; (b) design of educational, work and residential support settings; (c) development of behavior support programs; and (d) policies guiding behavioral support for individuals with severe disabilities and severe problem behavior.

## **Demonstrating the Benefits of Tangible Symbol Systems**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E30056

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

### **ABSTRACT**

**PURPOSE:** This project will conduct a comprehensive evaluation of the benefits of using tangible symbol systems beyond what has been possible in the past.

**METHOD:** Approximately 60 children and youths aged 3-21 with severe and/or multiple disabilities who are not able to communicate using a symbolic system will be involved from three school systems in Oregon. Three separate studies will be conducted to implement and evaluate the tangible symbol system to be used including: a study to document the efficacy of tangible symbol systems as a means of symbolic communication for students who have no means of communicating other than gestures; a longitudinal study to explore the long-term potential for tangible symbol systems as a possible stepping stone to the use of more conventional communication systems (including technological devices); and a study to evaluate the effectiveness of new materials developed through this project.

**ANTICIPATED PRODUCTS:** Products will include videotaped case studies for use as training aids, revised training materials, and presentations of project results at national conferences.

## **A Comprehensive Evaluation of the Effects of Voice Output Communication Aids on Communicative Interactions of Students with Autism**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B40025

BEGINNING DATE: 7/01/94

ENDING DATE: 1/31/95

### **ABSTRACT**

**PURPOSE:** This project will evaluate the effects of the use of voice output communication aids (VOCAs) on the communicative behavior of students with autism.

**METHOD:** An instructional training and performance management approach will be utilized to train teachers to create communication opportunities to use VOCAs in educational routines. The training and management program will be evaluated using a multiple probe design across students and within students across routines. Results will be analyzed and discussed in regard to the effects of VOCAs on the frequency of interactions between students and other communication partners and the communication initiations of students with autism.

**ANTICIPATED PRODUCTS:** Results of this study will provide information regarding the use of VOCAs as a communication mode for students with autism. If results indicate that VOCAs are a viable communicative mode for students with autism, these devices may be considered as an early communication alternative and may contribute to greater societal participation for these students.

### **The Impact of Facilitated Communication of Student Academic Performance Behavior and Social Interactions**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023A40012  
BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to evaluate and validate the practice of facilitated communication (FC) with children defined as autistic.

**METHOD:** The project will assist in providing scientifically valid information to judge the utility of FC when paired with a direct instructional technique to teach specific skills to children and youth with autism. These skills include: (a) letter recognition and sound/symbol correspondence, (b) number recognition and one-to-one correspondence; (c) student name; and (d) positional words. In addition, this study will measure student behavioral excesses and deficits as well as social interactions prior to and following students' introduction to FC. After confirming participants and the viability of the Canon Communicator system, researchers will train data collectors, conduct pre-intervention assessments, and provide direct instruction training to teachers. When daily instruction is implemented, staff will conduct daily treatment assessments as well as post-intervention assessments.

**ANTICIPATED PRODUCTS:** While facilitated communication has recently been advanced as a breakthrough intervention for individuals with autism, only anecdotal and nonempirical data exist to support it. This study will fill this gap, providing empirical and scientific data on what may or may not be the single most effective treatment for individuals with autism.

### **The Effects of American Sign Language (ASL) Fluency Upon the Development of Linguistic, Social, and Cognitive Competence in Deaf Children**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023T30007  
BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/96

#### **ABSTRACT**

**PURPOSE:** Through three separate studies, this project will compare the effectiveness of using American Sign Language (ASL) versus Simultaneous Communication (SC) as the language of instruction in educational settings for profoundly deaf children in early, middle, and late childhood.

**METHOD:** The first study will compare ASL-exposed groups to groups of deaf children in programs using SC, in order to compare the effectiveness of ASL and SC as the language of the classroom upon a child's linguistic, social, and cognitive competence. The second study will focus on older students, using a combined case study/experimental approach to examine the effectiveness of using a Cooperative Language Program that teaches secondary school-aged deaf students with limited English proficiency to use first language (ASL) metalinguistic skills to develop second language (English) skills. The third study will address the issue of how young deaf children from non-ASL using, hearing, families will learn ASL. The effectiveness of a preschool classroom-based ASL Early Intervention program to a home-based ASL Early Intervention program. This last study will be experimental, but will also involve some case study analyses.

**ANTICIPATED PRODUCTS:** The project will submit articles and other information about this research to appropriate professional outlets for publication including journals, professional and consumer newsletters, and book chapters. Outcomes will be presented to at least one local/regional audience and one national audience per year. Each collaborating program and collaborating teacher will be presented with a summary of research findings. Parents of participants will be provided with a brief summary of research findings as well.

### **Enhancing Communication Skills of Young Children with Severe Disabilities Through Partner Programming**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C00126  
BEGINNING DATE: 9/01/90

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This project will examine the immediate and long-term effects of early communication and language intervention procedures that are provided to interactive partners of young children with severe or multiple disabilities.

**METHOD:** The project will address issues including: the use and effectiveness of the procedures for children with varying baseline communication abilities; the use and effectiveness of the procedures across multiple integrated preschool educational programs; and generalization and longer-term gains and/or maintenance of the interactive behavior of partners who receive training.

**ANTICIPATED PRODUCTS:** The project will result in development and national dissemination of a series of manuals, publication of articles, and provision of professional training workshops. These products will facilitate the translation of project findings into practice.

***SECTION 9:***

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***TEACHER TRAINING,  
RETENTION,  
AND  
SUPPLY AND DEMAND***



## **Trends in Teacher Entry, Retention, Turnover, Attrition, and Shortage in Special Education**

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GRANT NUMBER: H023C40102

BEGINNING DATE: 7/01/94

ENDING DATE: 12/31/97

### **ABSTRACT**

**PURPOSE:** This project will analyze comprehensively trends over time in the entry, retention, turnover, teaching field transfer, and attrition of special education teachers (SETs) on the national level.

**METHOD:** Project research is based on three iterations of two sets of sample surveys conducted by the National Center for Education Statistics (NCES), USDE, which will include the Schools and Staffing Surveys (SASS), and the Teacher Follow-up Surveys (TFS). The SASS are composed of several basic questionnaires administered by mail with extensive telephone follow-up. A stratified systematic probability proportionate-to-size selection procedure was used to draw the SASS sample. The TFS provides the only database at the national level for the study of attrition from the teaching profession with a representative sample of teachers. A major feature of the database is the inclusion of follow-up interviews of teachers who: (1) were retained in their teaching positions; (2) transferred to different teaching positions; and (3) left the teaching profession entirely. This project provides the application of a multidimensional model for tracking teacher career transitions using three iterations of two national sample surveys. All statistical analyses will be based on the national estimates of teachers computed by applying appropriate weights to the numbers of teachers in their respective samples. The project will continue for a 42-month period, and the pace of the project has been designed in relation to the amount of personnel resources budgeted and the availability of the SASS and TFS data bases for research.

**ANTICIPATED PRODUCTS:** As a result of this project, a large amount of new information will be provided about the national status of, and trends in, SET entry, retention, turnover, teaching field transfer, attrition, and shortage. The project will also result in considerable insight into the dynamics of the SET teacher force and the teacher shortage problem.

## **Effects of an Instructional Efficacy Intervention on the Perceived and Actual Instructional Efficacy of Teachers and Reading Achievement of Students with Learning Disabilities and At-Risk for Reading Failure**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023B30035

BEGINNING DATE: 9/01/93

ENDING DATE: 2/28/95

### **ABSTRACT**

**PURPOSE:** This research project will: (1) explore the relationship among teachers' sense of teacher efficacy, years of teaching experience, and critical pedagogical stages; (2) examine the effectiveness of a staff development program for enhancing teacher efficacy; and (3) explore the relationship between teacher efficacy and student performance. Reading instruction will be the focus subject of the investigation and associated teacher training.

**METHOD:** Study 1 will be a descriptive investigation involving 100 teachers. This study will utilize a multiple regression analysis to examine the relationship between the predictor variables of teaching experiences, number of low performers, class size, and critical pedagogical stage and the dependent variable of instructional efficacy. Study 2 will employ participants of Study 1 in a stratified random-sampling pretest/posttest control group design. Participants will participate in a three-phase, 12-week instructional efficacy intervention, and improvements in their performance and efficacy will be rated by peers. These results will be examined alongside performances by students with learning disabilities and students at risk for reading failure.

**ANTICIPATED PRODUCTS:** Findings from Study 1 will assist in building an empirical database regarding the relation between teacher efficacy and critical pedagogical stages in reading. Successfully enhancing instructional efficacy in Study 2 will offer teachers new techniques for analyzing and adapting their instruction to be responsive to the needs of low-performing students.

## **A Four-Pronged Middle-School Intervention for Students with Mild Disabilities: Focus on Professional Development**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C20111

BEGINNING DATE: 7/01/92

ENDING DATE: 6/30/95

### **ABSTRACT**

**PURPOSE:** This project will develop, implement, and evaluate a comprehensive, four-pronged intervention at the middle school level to improve the quality of education received by students with mild disabilities and those at risk for special education referral.

**METHOD:** A comprehensive professional development model will be implemented to assist classroom teachers with skills and procedures for working with students with disabilities and at-risk students in their classrooms. Individualized coaching will be provided in research-based strategies, with an emphasis on generic effective instruction strategies, cognitive strategies, and cooperative/collaborative learning. Teacher-peer collaboration teams will provide an open forum for teachers to consult and develop instructional remedies among themselves. Class-wide student-peer tutoring will be provided to increase active involvement of students with disabilities in learning and social activities. Intensive remedial instruction will also be provided in literacy and numeracy.

**ANTICIPATED PRODUCTS:** Three manuals for professional development activities will be developed: a presenters' guide for training teachers and support staff, a guide for establishing and implementing class-wide peer tutoring at the middle school level, and a guide discussing effective cooperative learning strategies. Successful behavior control strategies developed by teacher-peer collaboration teams will be compiled in a separate report. Manuals and findings will be disseminated widely, and articles and reports will be submitted to professional journals.

### **Beginning Special Educators' Perceptions of Their Interactions with General Educators**

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GRANT NUMBER: H023B40024  
BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

#### **ABSTRACT**

**PURPOSE:** This project will study beginning special educators' interactions with and perceptions of their interactions with general educators.

**METHOD:** The activities and thoughts of four beginning special educators will be described as they collaborate with general educators. The teachers will be interviewed three times throughout their first semester; they will also be observed in a collaborative situation with a general educator once a week for 8 weeks. Data from these interviews and observations will be analyzed by teachers and compiled into separate case studies of each teacher subject. Finally, a cross case analysis will detail the similarities and differences across the cases.

**ANTICIPATED PRODUCTS:** Case studies resulting from this investigation will inform both teacher educators as they plan preservice programs and school systems as they implement collaborative programming between special and general educators.

## Investigation of Special Education Teacher Attrition in Florida

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GRANT NUMBER: H023C20092  
BEGINNING DATE: 1/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project's research activities will address how historical influences, individual teacher characteristics, structures of the educational environment, and influences external to the workplace contribute to the problem of staff attrition in special education.

**METHOD:** A survey packet will be developed to measure the variables contributing to teacher attrition among Florida special education teachers. Attrition rates will be established using a recently implemented state database, allowing for a comparison of regular and special education attrition rates at school- and district-levels. Data analysis of survey results will be used to profile schools and districts with notably high or low attrition. Teachers identified in the first year will be tracked through the state database, and those who leave will be interviewed regarding their reasons for doing so. Four schools will be selected as case studies representative of both high and low attrition schools in both high and low attrition districts. An administrator survey will be developed and implemented to probe the relationship of administrators' perceptions of school environments to school- and district-level rates of attrition.

**ANTICIPATED PRODUCTS:** Measurement instruments will be developed for use by district and state-level administrators to continually monitor the impact of their programs and policies on teacher attrition/retention. By aggregating data at individual, state, and district levels, variables impacting attrition at each level will be identified. From these findings, retention strategies can be developed that are based on systematic research, discouraging the use of stop-gap approaches.

***SECTION 10:***

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***TECHNOLOGY  
AND  
SOFTWARE***

## **Project CONNECT: Content-Area-Literacy Networked Notetaking for Exceptional Children and Teachers**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G40066

BEGINNING DATE: 6/01/94

ENDING DATE: 5/31/97

### **ABSTRACT**

**PURPOSE:** The project will research the benefits of synchronous notetaking strategies using portable laptop computers and a wireless network.

**METHOD:** Participating students will be selected from three populations for whom notetaking in regular content area classes is often difficult: students with learning disabilities, students with severe hearing impairments, and students with severe upper extremity dysfunction. All participating students will be provided with Macintosh PowerBooks for regular class notetaking and will be assisted by trained notetakers using the same equipment. These laptop computers will be linked wirelessly and together they will create notes from class presentations and discussions using synchronous writing software. Data will be gathered to (a) uncover the specific notetaking strategies most important for different types of students, (b) determine effective ways for students to manipulate and use the notes for studying outside of class, and (c) explore ways to increase students' independence and personal responsibility for the notetaking process.

**ANTICIPATED PRODUCTS:** A technical report will be written at the end of each project year describing and summarizing the results of research efforts to date. Researchers have arranged for the provision of the software used at a discounted price to schools along with project training materials and a descriptive videotape. Findings will also be submitted to professional publications and presented at conferences on state, regional, and national levels.

## **Project SUCCESS: Students Using Cognitively-Based Computer-Enhanced Study Strategies**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20039

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** This 3-year project will demonstrate and evaluate the extent to which electronic study strategies improve the education and enhance the learning potential of students with learning disabilities in middle schools and high schools.

**METHOD:** The project will work with special education teachers and students at four demonstration sites in Oregon to explore the efficacy of computer-based information organizers as tools for studying and learning across the curriculum. Students will be taught three cognitively-based, computer-enhanced study strategies using software designed to facilitate information recording, organization, and manipulation. Specifically, students will learn to use electronic outlining programs, electronic concept mapping programs, and documents using



hypertext features to support the development of active reading skills in content area subjects. The project is designed so that, at any given implementation site, electronic study strategies are introduced to students gradually, and influencing variables are systematically manipulated within an overall framework of formative and summative evaluation. Major phases of the program will include: (a) planning; (b) preparation and piloting; (c) individualized implementation; (d) comparative implementation; and (e) documentation and dissemination. Information from each phase will inform successive phases and data from the fourth phase will be used for summative evaluation.

**ANTICIPATED PRODUCTS:** It is anticipated that use of computer-based information organizers as study tools by students with learning disabilities will enhance their academic achievement in subject areas across the curriculum, improve their self-concept and motivation for learning, and promote increased integration of special and regular education. One product developed through the project will be a manual for implementing the strategies found to be effective with special emphasis on guidelines for teacher inservice and maximizing the transfer of electronic studying to general education classes. In addition, three videotapes describing the project and recommending strategies for using each of the three electronic studying strategies with students with learning disabilities will be developed. The applicant will provide for widespread dissemination of research findings through manuscripts prepared for publication and papers for presentation at conferences, each with a particular focus on translating research findings into usable suggestions for practitioners.

### **Project LITERACY-HI: Literacy Improvement via Text Enhancements and Reading Assistance for Children and Youth with Hearing Impairments**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G30027

BEGINNING DATE: 6/01/93

ENDING DATE: 5/30/96

#### **ABSTRACT**

**PURPOSE:** This project will conduct research into the benefits of electronically-enhanced text for mainstreamed students who are hard of hearing.

**METHOD:** Participating students (N=77) will be provided with Macintosh PowerBooks containing electronically-enhanced versions of their classroom textbooks. Short-term effects of electronically-enhanced reading materials on the comprehension of content-area materials and academic achievement in regular classes will be assessed, as will the long-term effects on the literacy skills, academic achievement, and psychosocial development of students who are hard of hearing. Additional research will explore the extent to which environmental factors effect and are effected by the use of enhanced reading materials among such students.

**ANTICIPATED PRODUCTS:** It is anticipated that this technology will greatly enhance students' abilities to read and comprehend text from content area materials by supporting their literacy needs unobtrusively, thereby maximizing

their chances for success in least restrictive environments. Technical reports will be written on each phase of the project. Articles will be written for publication in technology-oriented, content-area, language arts, and special education publications. Presentations will also be made at national conferences.

## **Interactive Computer Information Trail Guides for Accessibility**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: RA94129011

BEGINNING DATE: 10/01/94

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** The project will develop a user-friendly, computerized trail guide information system.

**METHOD:** The system to be developed will consist of two main components: (1) an Interactive Computer Information Trail Guide, providing video images and access data for specific trails; and (2) a Smart Trails Selector program that will select trails meeting the user's desired parameters. Both components will incorporate universal access information that will be helpful to users with and without disabilities. Components will be tested for accuracy and reliability prior to evaluation by persons with and without disabilities in a pilot study at Yellowstone National Park. Questionnaire and interview responses will be analyzed to identify strengths and weaknesses of the system.

**ANTICIPATED PRODUCTS:** Providing objective information on the degree of accessibility of outdoor trails in conjunction with a Smart Trail Selector program will give millions of people with mobility limitations a tool for accessing the outdoor leisure and recreation environment. This information and trail selection program will then be available for access through visitor center kiosks, CD ROM, or via modem.

## **Linking Text-Processing Tools to Student Needs**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G20005

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/95

### **ABSTRACT**

**PURPOSE:** This project will create, validate, and implement a taxonomy for organizing the many text-processing programs available to classroom teachers.

**METHOD:** During Year 1, commercial, shareware, and public domain text-processing programs will be systematically analyzed to develop a taxonomy of critical design features. Concurrently, a cadre of students in grades 5 through 8 will be assessed individually to identify specific strengths and weaknesses. During Years 2 and 3, effects of linking selected software design characteristics to patterns of student needs will be examined via a series of experimental studies. Students identified and assessed during Year 1 will serve as participants in these studies, which will be conducted in the context of after school and summer writing labs at Western Michigan University. Also during Year 3, the software

design taxonomy will be combined with results of the experimental analyses and other published research findings to develop specific recommendations for linking text-processing tools to student needs.

**ANTICIPATED PRODUCTS:** The project will generate taxonomies for organizing the myriad of text-processing programs now available to classroom teachers and, through a series of experimental analyses, provide new information about the impact of specific software design characteristics on development of writing skills among students with language-related learning disabilities. Information about the selection and use of appropriate text-processing tools to promote literacy among students with learning disabilities will be disseminated via research- and practitioner-oriented journals, presentations at professional conferences, and a print-based text-processing tools software selection guide for teachers.

### **Project CADRE: Classware Application Development, Refinement, and Employment: A Classware-Development and Use Project**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180A40060  
BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/95

#### **ABSTRACT**

**PURPOSE:** The project will train special education college professors, public school partnership teachers, and ASU teacher trainees in the use of one or more multimedia programs that would support and supplement their instruction.

**METHOD:** During each of 3 project years, staff will train special education college faculty (N=2), special education public school partnership teachers (N=10), and ASU special education teacher trainees (N=25). In Project Year One, staff will identify ASU faculty (N=2) from the Language, Reading, and Exceptionalities (LRE) Department, and partnership teachers (N=10) to partake in the group training each year. After selectively choosing courses for trainees, staff will demonstrate what's available, what's current, and what's "state of the art" in multimedia technology. Project staff will retain a small percentage of trainees each semester, including one or two more creative and productive processors or teachers in the following year's training. Returning trainees will perform at higher levels, producing more numerous and more sophisticated products, and will act as mentors for newer and less-experienced trainees. In Year 2, after adding additional trainees and repeating the Year 1 process, staff will explore the use of CD-ROM Read/Write devices to produce CD-ROMS for classes. At this time staff will also review alternate sources of funding that will allow Project CADRE to extend beyond the current 3-year cycle. Staff will also share results with districts just entering the partnership, and establish collaborative enterprises. During Project Year 3, staff will broaden the training base of ASU faculty by including two additional LRE faculty. Staff will also compile all projects into a one or two CD-ROM set for use by students and will finish compiling all evaluation data and prepare a final report in paper and electronic formats.

**ANTICIPATED PRODUCTS:** Disseminated materials will include results, developed classware, and classware use activities and will be distributed through quarterly newsletters, submissions to scholarly journals, electronic bulletin board service, Internet, and various conferences.

### **A Project to Develop the Skills Intelligent Learning System (SKILS)**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: RA94129008  
BEGINNING DATE: 10/01/94

ENDING DATE: 3/31/95

#### **ABSTRACT**

**PURPOSE:** The project will develop a PC-based Skills Intelligent Learning System (SKILS) prototype to help adults with disabilities develop their decision-making skills.

**METHOD:** Phase I of product development will see the definition of the full SKILS system architecture, development of the human/machine interface (HMI), and demonstration of the impact of the natural HMI on simulation effectiveness through comparison trials using test scenarios. Trials will be conducted comparing the effectiveness among target population members of simple training simulations using the project's natural HMI (featuring visual aids, environmental audio, speech synthesis, and speech recognition) as opposed to a similar simulation using visuals and a text-based HMI. Data resulting from this pilot study will be analyzed to yield conclusions and recommendations for Phase II, a future SKILS effort in which the fully functioning SKILS prototype will be developed.

**ANTICIPATED PRODUCTS:** Monthly interim letter reports and one final report will be prepared and delivered. The interim reports will describe the system architecture, design issues, and instructional content and scenario presentation descriptions for the SKILS HMI prototype. The final report will include the project objectives, work carried out, results obtained, and an estimate of the technical feasibility for full SKILS prototype implementation in Phase II.

### **National Center to Improve the Tools of Educators (NCITE)**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H180M10006  
BEGINNING DATE: 10/01/91

ENDING DATE: 9/30/96

#### **ABSTRACT**

**PURPOSE:** This project will establish a center to advance the quality of technology, media, and materials (TMM) for providing special education and related services to children with disabilities.

**METHOD:** The Center will evaluate technology, media, and materials across age groups (early childhood to transition), disabilities (mild to severe), and outcomes (enhancing academic learning to improving social relationships). Partnerships will be formed with major stakeholders including parents, teachers, administrators,

researchers, developers, producers, distributors, and representatives of private industry. Major activities will include: developing a strategic framework for aligning design of TMM with needs of children, educational activities, and procedures; conducting analyses and syntheses of quality TMM; providing networks, exchanges, meetings, and focus groups to review and exchange information; and developing and disseminating materials that provide guidance to TMM developers, producers, and distributors/publishers.

**ANTICIPATED PRODUCTS:** Products for dissemination will include research syntheses, newsletters, and guidelines for producers, developers, and publishers of TMM.

## Multimedia Interactive Learning System for Interpreters

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30026

BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project will develop a computerized interactive multimedia learning system to allow educational interpreters to develop sign language interpreting skills.

**METHOD:** The system will incorporate sound, animation, graphics, and video in an interactive computer environment to: (1) strategically provide user participation and control; (2) fully exploit the powers of multimedia computing in providing training in sign language and the associated visual linguistic expressed by the face, hands, and body; (3) facilitate an evaluation-feedback-training-reevaluation environment through user-controlled computer-based training modules including self-assessment, remediation, and diagnostic tools; and (4) isolate and intensify adverbial markers and clausal boundaries at the sentence level.

**ANTICIPATED PRODUCTS:** The effectiveness and fluency of deaf interpreters should be considerably augmented by the appreciation of a visual language this system will promote. Such interpreters will provide better language models to deaf signers in all contexts and should be generally more effective as sign language communicators and interpreters.

## Final Development and Field Testing of a Baby Babble Blanket

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20032  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** This project will intervene with infants with cerebral palsy (CP) using a Macintosh-based early communication and environmental control system, the Baby Babble Blanket (BBB). The BBB is a blanket with built-in switches that a small child can activate by kicking or rolling to produce digitized sounds, including babbles, words, sentences, or nursery rhymes created and arranged to fit a particular child.

**METHOD:** The BBB system will be further developed and field-tested in the home and in two schools for children with physical disabilities. Specifically, the program will: (1) develop guidelines on when this system is appropriate using two infants who are not disabled; (2) provide babbled vocalizations and later words to three infants with CP; and (3) develop the system to meet the educational goals of 10 children with multiple disabilities in two schools with strong technology support. The computer program in place to control this system incorporates a single subject design, allowing staff to collect data on the response of children to sound output that is compared to a repeated baseline condition with no speech output. The project will be evaluated through an examination of these and other data, logs, and a questionnaire to be filled out by parents and teachers, and by the assessment of an outside evaluator.

**ANTICIPATED PRODUCTS:** End products to be disseminated will include: (1) a completed version of the software; (2) manuals and help screens; (3) digitized sound libraries; (4) training procedures and videotapes; (5) evaluations of the blanket, training, and documentation; and (6) guidelines for appropriate use with case descriptions and suggestions for educational planning.

## Experimental Validation of the Effects of Assistive Writing Technologies on the Literacy of Students with Disabilities

**PRINCIPAL INVESTIGATOR:**

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Center on Developmental  
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GRANT NUMBER: H180G40065  
BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/97

### ABSTRACT

**PURPOSE:** This project will conduct a program of single subject research which, when mapped into a comprehensive conceptual model, will establish the effects of assistive writing technologies such as voice recognition, word prediction programs, and alternative keyboard systems on the writing skills and literacy of children and youth who have disabilities.



**METHOD:** Following collection of baseline data on the writing skills of students by teachers, a technology specialist and project staff will establish the experimental conditions of the research study. Training in the operation and maintenance of assistive writing technology will be provided to school staff, as will training in the procedures for collecting weekly assessment data. After collection and analysis of project data, weekly teacher follow-up will be conducted by phone. Writing technology will be reconfigured as needed, and inservice and training support will be provided for ongoing integration of writing technology.

**ANTICIPATED PRODUCTS:** In addition to submission of articles on project findings to relevant professional journals, project staff will produce a series of technical reports detailing project findings. Findings will also be presented at professional meetings, and copies of training curriculum materials will be made available to interested parties.

### **A Voice-Assisted Interactive Computer-Based Achievement Testing System for Students with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: RA94129012  
BEGINNING DATE: 10/10/94

ENDING DATE: 3/31/94

#### **ABSTRACT**

**PURPOSE:** The project will develop a computer-administered standardized achievement testing (CASAT) system for students with disabilities.

**METHOD:** Major features of the CASAT system to be developed will include: speech presentation in digitized and synthesized modes; voice recognition; prompted presentation; touch-sensitive screens; a suitable database; a system for generating reports; and a set of appropriate presets and customizable features. Following development of these features, staff will establish procedures for linking CASAT results to existing item banks and measurement scales. The impact of the addition of speech on measurement characteristics of questions will be closely examined in this stage. Prototypical constructed response items will then be fieldtested, to include open-ended short-answer, Cloze, matching, and "continuum" questions. A system for producing extended reports using evaluative statements as well as scores and norms will be developed to aid teachers and parents in the interpretation of test results in critical goal areas as well as overall assessment. Reports will key statements to student performance, including growth across testing periods, yielding easily understood paragraphs describing test results. Throughout the project, staff will work to organize a CASAT school consortium for further use in Phase II.

**ANTICIPATED PRODUCTS:** The anticipated CASAT system and prototypical test items will assist in the determination of eligibility and assessment of achievement growth of special education students. It is expected that the CASAT system will provide a more valid and reliable assessment tool, faster turnaround of results, and more in-depth reports while reducing the cost per student from approximately \$85 to approximately \$10.

## Improving Management, Planning, and Achievement Through Computer Technology: Project IMPACT

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20004

BEGINNING DATE: 9/01/92

ENDING DATE: 8/31/95

### ABSTRACT

**PURPOSE:** This project will examine the contribution of contextual features to the efficacy of computer-managed instruction (CMI) in the field of mathematics instruction.

**METHOD:** Contextual features to be studied are: (a) administrative support and staff involvement in planning and implementing innovations; (b) specialized training and ongoing technical assistance; and (c) congruence between the innovation and salient dimensions of the curriculum. The first project year focused on collaborative planning, pilot implementation, formative evaluation and refinement, and description of collaborative planning and pilot activities. Thirty teachers and 120 pupils will participate in CMI with collaborative planning, while another 15 teachers and 60 pupils each will participate in CMI without collaborative planning and non-CMI conditions. Year 2 is devoted to full-scale implementation, research on contextual features, and continued formative evaluation and refinement, studying four groups of 15 teachers and 60 pupils each, in which contextual features will be systematically varied. In Year 3, continued implementation will be the focus, along with documentation of utility and effectiveness under optimal conditions, final evaluation and refinement, and dissemination. In this phase, 45 teachers and 180 pupils will participate in CMI with optimal contextual features. In addition, a 6-month option for final collaboration with other grants and dissemination activities is planned.

**ANTICIPATED PRODUCTS:** This project is expected to produce critical outcomes and otherwise unavailable information for the field. Products will include: (a) upgraded, validated computer programs to facilitate implementation of a comprehensive CMI math system, which enhances teacher decision-making and individualized instruction and improves achievement levels among students with disabilities; (b) critical information about methods and materials required for successful implementation of technological innovations; (c) key information about the relative impact and benefits of technology on educational improvement; (d) data on the role of grade, age, and severity of disability in determining outcomes; and (e) manuals and videotapes to enhance teacher training in these methods. Scholarly findings will be disseminated via ERIC reports, journal articles, and conference presentations.

## **Assistive Technology in the Cognitive Realm: Tools for Daily Living**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180T40053

BEGINNING DATE: 1/01/95

ENDING DATE: 12/31/97

### **ABSTRACT**

**PURPOSE:** The project will utilize existing technologies to assist a group of adolescents and young adults with cognitive impairments to use technology to "work around" their cognitive limitations in terms of remembering and implementing metacognitive routines.

**METHOD:** This project will develop and implement a series of software modules to help users access relevant information and knowledge to improve the quality of their life in the community; develop skills for exercising increased personal autonomy in decision making; manage day-to-day living situations and challenges; and promote the development of increasingly sophisticated problem-solving strategies. Students aged 17-21 will be nominated by teachers for participation in the project. Interviews with subjects will examine their interests and needs so software packages can be tailored to meet these needs. Field testing will focus on the refinement of the graphic user interface, the user/prompt interaction sequences, and the kind of training needed to support users in their initial phases of learning and ongoing interaction with the system. Project evaluation will rely on the use of multiple methods including qualitative and quantitative techniques for data collection and analysis.

**ANTICIPATED PRODUCTS:** The project's creation of innovative tools using varied and integrated media and materials should enable individuals with disabilities to achieve the outcomes expected of all students, such as independence, productivity, and a quality of life that promotes equity in opportunity. The process will also enable the learner across environments by fostering the creation of state-of-the-art instructional environments both within and outside school settings.

## **Developing Technology, Media, and Materials to Enhance Student Self-Determination Within Transition Planning**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180A40071

BEGINNING DATE: 7/01/94

ENDING DATE: 6/30/97

### **ABSTRACT**

**PURPOSE:** The project will enhance the utilization of a transition planning strategy that incorporates a self-determination process as a foundation through the development of computer software, broadcast quality videotapes, and a wide array of materials.

**METHOD:** The three basic steps of this project will include the development of appropriate technology, materials, and media to support a transition planning

strategy that enhances student self-determination within the IEP process, training a large sample of stakeholders on how to use the strategy, and training potential users and trainers of the strategy on how to use the transition planning strategy and its supporting materials. The achievement of student self-determination within the IEP process requires that students must: (1) forecast their long-range goals and anticipate how to reach them; (2) be able to learn their own strengths and weaknesses; and (3) have a workable strategy for using this information themselves. This approach should be supported by effective materials including technology and effective media supports. In order to meet these conditions, project staff will focus on a strong foundation of work in: (1) teaching adolescents with disabilities how to build a sense of self-empowerment; (2) developing assessment instruments in areas that pertain to transition; and (3) designing programs and developing materials that improve transition services in local communities. Student self-evaluation will include such areas of potential student achievement as academic skills, vocational skills, independent living skills, and personal/social skills. While teaching self-evaluation practices to students with disabilities through modifications of the Transition Skills Inventory, staff will develop procedures for negotiating differences of opinion and will review other relevant standardized tests.

**ANTICIPATED PRODUCTS:** This project will result in a series of training materials, software for a computerized management information system to support the overall strategy, and a set of objectives and tasks for addressing high priority program standards over the course of a year.

### **Videodisc Technology and Sign Language for Improving Reading Skills of Deaf Middle School Students**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G20021

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** This research project will explore the challenges deaf individuals face in comprehending written English and will examine the assistance that may be afforded by signed renditions (or versions) of the information via interactive technology.

**METHOD:** The vehicle for this exploration is an interactive video system capable of displaying reading comprehension passages and items (i.e., questions) in either of two signed versions (American Sign Language or Manual English) in addition to written English text. Reading comprehension sets will be administered to a total of 120 deaf middle school students in a variety of conditions. Issues of performance and preference for the language version will be studied in light of: (a) content variables, such as the particular type item or passage; and (b) student variables, such as prior exposure to particular forms of signed communication language and age at onset of deafness. Special attention will be paid to determining: (a) how deaf individuals with different backgrounds approach difficult inferencing problems; and (b) to what extent they have trouble with particular vocabulary versus higher-level constructions, etc.

**ANTICIPATED PRODUCTS:** This project should lay a groundwork for automated interventions for instruction, performance support, and diagnostic assessment for deaf individuals performing language comprehension tasks. The potential of using sign language to facilitate development of reading comprehension will be explored, as will possibilities for accommodations that may be made for deaf individuals in academic and other settings. If the materials under examination prove useful for deaf students, the possibility of duplicating and packaging them for dissemination to schools and individuals will be explored. Presentations of project findings will be made at relevant professional conferences and a paper will be submitted for publication.

## Telecommunications for All

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30025

BEGINNING DATE: 8/01/93

ENDING DATE: 7/31/96

### ABSTRACT

**PURPOSE:** This project will develop systems for the assistive technology application of telecommunications for deaf children.

**METHOD:** Off-the-shelf and emerging communications technology will be tailored for improved access by children in school environments, and staff will develop systems, materials, and activities that enable and encourage telephone use based on the developmental level of the child. The project will begin with a needs assessment conducted at the schools, a survey of materials and curricula from other schools, and a review of all candidate products. A preliminary design of at least one system for providing an array of technologies at one site will be developed, followed by review by a panel of experts. The system will be assembled and software written to integrate the components, provide a user-friendly interface, and to provide tutorials and other information. The prototype system will initially be tested at schools closest to the research system, and then placed farther away as system reliability is established. The system will be evaluated for cost, reliability, technical support required, ease of use, training requirements, and impact on children's abilities to use visual telecommunications.

**ANTICIPATED PRODUCTS:** The systems and materials generated will result in greater program accessibility and appropriateness for deaf children, use of telecommunications at earlier ages, and an accelerated program of instruction on visual telecommunications compared to the present case.

## Literacy for Life: MOST Environments for Accelerating Literacy Development in Special Education High School Students

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20044

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** This project will develop, implement, and evaluate an innovative multimedia approach to the education of high school students who have mild disabilities and serious problems in reading and literacy.

**METHOD:** The project will employ a motivational approach to help students acquire confidence, skills, and knowledge necessary for academic and vocational success. MOST environments consist of three components: (1) the Peabody Literacy Program, a multimedia program that combines fluency instruction and comprehension instruction; (2) the Multimedia Producer, a multimedia software program that allows students to create their own multimedia production; and (3) two-way video teleconferencing. The Peabody Literacy Program anchors instruction around important life topics, such as AIDS, substance abuse, and sexuality.

**ANTICIPATED PRODUCTS:** Student multimedia presentations will be displayed in kiosks in community malls and high schools. Other materials pertaining to the dissemination effort will include manuscripts for publication, conference presentations, and the commercial availability of the MOST environments.

## Developing Mathematical Literacy Through the Use of Contextualized Learning Environments

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G40002

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/95

### **ABSTRACT**

**PURPOSE:** This project will examine the efficacy of developing mathematical literacy in elementary special education students using video-based contextualized learning environments.

**METHOD:** Researchers will develop a minimum of three video-based contextualized learning environments per project year presenting problems from young children's everyday life. Analogical instruction throughout the 3-year program will focus on developing declarative, procedural, and conceptual mathematical knowledge within contextualized learning environments. The results will be compared to control students' ability to solve mathematical problems in decontextualized learning environments.

**ANTICIPATED PRODUCTS:** Versions of all written products will be submitted as technical reports to pertinent Educational Resource Information Center (ERIC) locations.



## **An Integrated Multimedia Information Tool for Persons Treating Students with Severe Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20016

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/95

### **ABSTRACT**

**PURPOSE:** This demonstration and evaluation project uses CD-ROM, multimedia, and expert systems technology to provide field-based support to persons treating children with severe disabilities. The project will address those problems that are considered severe and for which local schools consider themselves ill-equipped in training and experience.

**METHOD:** The CD-ROM information base will integrate an expert system to improve decisions to select and implement appropriate treatments, a library of staff development multimedia programs using visuals, animations, and sound to train professionals in the effective implementation of specific intervention, and a range of print materials, including materials to facilitate effective parental involvement. A combination of selected mentor training procedures and the CD-ROM content will be used to deliver a field-based training program that will address both the acquisition of needed professional expertise and the highly collaborative nature of a treatment environment that includes family, community, and school settings. Summative evaluation will incorporate an experimental design using randomly selected treatment and control groups. Project outcomes will be measured by: (a) the quality of treatments selected; (b) the quality of specific interventions; (c) changes in the collaborative relationships and attitudes of participating professionals; and (d) changes in student outcomes.

**ANTICIPATED PRODUCTS:** The state-wide implementation of the training program will be initiated after the formative evaluation and in parallel with the controlled summative evaluation. State resources have been committed to extend the training on the expiration of federal funding. Three technical reports and associated research articles will be disseminated in conjunction with the final report and training materials.

## **The Early Childhood Emergent Literacy Technology Project**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G40078

BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/97

### **ABSTRACT**

**PURPOSE:** The purpose of this project is to describe and explain the effects of an Interactive Technology Literacy Curriculum (ITLC) on emergent literacy knowledge and abilities of 3-, 4-, and 5-year-old children who demonstrate mild to moderate disabilities.

**METHOD:** The study is designed in three phases, one phase per project year. Phase 1 will provide a description of the effects of implementing the ITLC in classrooms with three varying levels of technology available. Phase 2 will expand

the Phase 1 sites with a nontechnological classroom and will test findings of Phase 1 site research. Phase 3 will continue to collect longitudinal data on both Phase 1 and Phase 2 sites. Data collection will include pre- and post-tests, observation, interviews, examination of records and materials, analysis of videotaped individual child behaviors, dyads, and small groups, content analysis, and other methods.

**ANTICIPATED PRODUCTS:** This project will result in the evaluation of interactive commercial software, hypermedia software produced in the classroom, and utility software such as graphics and story-making packages.

### **A Virtual Reality Training Program for Motorized Wheelchair Operation**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E3C001

BEGINNING DATE: 3/01/93

ENDING DATE: 2/29/96

#### **ABSTRACT**

**PURPOSE:** This project will demonstrate and evaluate four virtual reality training programs designed to teach nonambulatory children to operate a motorized wheelchair safely in the natural environment.

**METHOD:** Four virtual reality training programs with which to increase driving skill and the extent to which children use their wheelchairs in the school and community environment will be planned, created, and tested. These training programs will then be implemented in three demonstration sites, two of which will be in the public school system, with an emphasis on recruiting and training children between the ages of 6 and 12. Using both single subject and group design methodologies, staff will evaluate the extent to which virtual reality training increases driving skill and wheelchair usage among trained children.

**ANTICIPATED PRODUCTS:** A technical report will be written at the end of each year describing the project and results of evaluation efforts to date. In addition, a manual for implementing the strategies found to be effective in the project will be written, including guidelines for implementing the program in public schools. Journal articles will also be prepared for publication in technology-oriented and practitioner-oriented publications concerned with special population.

### **Science Education for Secondary Students with Severe Orthopedic Impairments Using Virtual Reality**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180T40100

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/96

#### **ABSTRACT**

**PURPOSE:** This project will develop and program three-dimensional virtual reality (VR) scenarios to be implemented in science classrooms containing one or more students who would otherwise be prevented from experiencing hands-on science education due to orthopedic impairments.

**METHOD:** Staff will work closely with science teachers at selected secondary schools to identify specific units within the existing curriculum from which students with severe orthopedic impairments are excluded due to their physical limitations. Following development of appropriate VR scenarios, half of the regular class (including orthopedically impaired students) will conduct experiments or perform activities using the VR system, while the other half of the class performs these tasks in the usual way. Analyses will compare mean scores between the groups (to measure instructional validity) and between orthopedically impaired students and their peers (to insure adequate progress within the curriculum). Project staff will thus identify principles underlying the use of VR to provide modified science activities and materials and to ensure meaningful student participation, meanwhile validating that the VR materials ensure adequate student progress in inclusive settings.

**ANTICIPATED PRODUCTS:** A technical report will be written at the end of each year summarizing the results of evaluation efforts to that date. A manual for implementing the strategies found to be effective in this project will be written, with special emphasis on guidelines for implementing the program in public schools. Project staff will write articles for submission to professional publications for both scholarly and practitioner-oriented audiences. Project findings will also be presented at key relevant conferences at state, regional, and national levels.

### **Presentation Rate and Readability of Closed Caption Television**

**PRINCIPAL INVESTIGATOR:**

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Suite 200  
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301-593-2690

GRANT NUMBER: H180G40037

BEGINNING DATE: 2/28/94

ENDING DATE: 1/30/96

### **ABSTRACT**

**PURPOSE:** This project will: (1) develop words-per-minute and readability scoring techniques for measuring captioning; and (2) determine the caption presentation rate and readability level that hearing impaired adults and children prefer and are able to comprehend.

**METHOD:** A presentation rate and readability measurement system will be established, measuring presentation rate in words-per-minute and readability in grade levels. Baseline data for this measurement system will be obtained from a random sampling of 200 hours of closed caption television. Subjects of various ages (N=600) and with varying degrees of hearing loss will be tested to determine their closed caption television preferences and ability to read captions. An advisory panel including experts from the fields of captioning, reading, and hearing impairment will provide guidance and technical input to the project staff.

**ANTICIPATED PRODUCTS:** A final report will be constructed to provide caption companies with information to help them improve the quality of captioning by fitting caption presentation rate and readability to the preferences and abilities of the audiences. At least three journal articles will be written and submitted for publication in relevant professional journals.

## **Integrating Speech Recognition Into the Classroom Interpreting Services of Mainstream Deaf and Hard-of- Hearing Students**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180A40006  
BEGINNING DATE: 9/01/94

ENDING DATE: 9/30/97

### **ABSTRACT**

**PURPOSE:** This project will develop techniques for integrating speech recognition within the sign language interpreting process, develop a training program and materials for teaching interpreters to use these techniques, and set up a nationwide "training-the-trainer" program to disseminate these techniques.

**METHOD:** Staff will first meet with Montgomery County Public School (MCPS) administrators to plan activities, select MCPS interpreters (N=4) and high school students with deafness (N=4) to participate, and select topic areas and classes. Staff will then obtain the DragonDictate speech recognition system as well as more advanced models (N=4), consisting of computers, sound capture boards, headsets, and a software package. Staff will also obtain copies of each of the high school textbooks used by MCPS in classes related to the selected topic. The index and glossary words from these textbooks will be checked against the words in the speech recognition system; any words not in the system will be added. Once all equipment has been installed, participating MCPS interpreters will train on the systems and will help analyze classroom interpreting to determine strengths and weaknesses. When basic techniques have been defined, a mock classroom learning situation will be conducted to allow participating interpreters and students to practice interpreting. Techniques and procedures developed by participants will then be evaluated for a total of 20 hours under actual classroom conditions including nonparticipating students (N=30) and a teacher. Once techniques have been approved, staff will develop materials and a training program for teaching interpreters to use speech recognition in class. Staff will then develop a "training-the-trainer" program to teach people how to use the training program in other classrooms and in different subjects.

**ANTICIPATED PRODUCTS:** At least two journal articles will be submitted by the project staff. Staff will develop training materials for teaching classroom interpreters to use speech recognition. As a result of this project, interpreters (N=60) will be trained to use speech recognition, with special instruction on teaching others to use it.

## Technical Support for the Department of Education's Technology, Educational Media, and Materials Program (TMMP)

**PRINCIPAL INVESTIGATOR:**

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202-785-9360

GRANT NUMBER: HS93032001

BEGINNING DATE: 10/10/93

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** This project will support the transfer of knowledge developed under the Technology, Educational Media, and Materials Program (TMMP) through marketing, communication, and evaluation activities.

**METHOD:** Marketing activities will promote TMMP's national agenda by securing a broad base of commitment, support, and participation in the ongoing agenda building process among researchers, developers, and practitioners. Communication activities will work to synthesize the existing knowledge base of technology, media, and materials and to transfer that information for use by appropriate groups within both the special and regular education communities. Evaluation activities will continually assess both the ongoing relevance of the four TMMP Program Commitments as well as concrete progress in achieving the Commitments' goals to educate children and youth with disabilities. The Chesapeake Institute's general approach will be based on Daniel Yankovitch's three states of moving people to public judgment and action; all marketing, communications, and evaluation plans will thus feature components focusing on consciousness raising, working through, and achieving resolution.

**ANTICIPATED PRODUCTS:** Products corresponding to the communication component of the project will include: video materials and public service announcements; written materials including information kits, newsletters, teachers' guides, and compendia of expert opinion; media and informational events, such as televised town meetings and a 20th anniversary celebration of the Education for All Handicapped Act; and networking of TMM experts via interactive information lines and existing computer networks.

### CD VisROM: Remote Access to CD ROM by Visually Disabled Students

**PRINCIPAL INVESTIGATOR:**

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815-895-3078

GRANT NUMBER: H180E20053

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** Project CD VisROM is a 3-year effort to develop a system by which students with visual impairments can gain remote access to the information contained in CD ROM software. Adaptive computing hardware and software will be employed to meet these goals via telecommunications from school or home.

**METHOD:** Project staff will first train a group of eight teachers who will, in turn, train eight students from grades 7-12, four of whom will be blind and four of whom will have partially impaired vision to develop the project's products.

Low vision access equipment will focus on a small notebook computer, while Braille access equipment will feature the Braille 'N Speak system, which includes a speech synthesizer and screen reading program. Each device will be linked to a small modem for telecommunications. A thorough evaluation of the system and the training materials will take place. Subjects' school performance will be compared to that of a control group. During the third and final year, the teachers of the control group will be trained, and they, in turn, will instruct their students in the use of the system.

**ANTICIPATED PRODUCTS:** At the conclusion of the project, a thoroughly evaluated and field-tested manual will be disseminated along with a videotape illustrating the use of the system. In addition to the print form of the manual, diskettes containing the information will be made available in various formats for use by visually disabled individuals.

### **Project VISION: Visually Impaired Students and Internet Opportunities Now**

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GRANT NUMBER: H180T40008

BEGINNING DATE: 1/01/95

ENDING DATE: 12/31/96

#### **ABSTRACT**

**PURPOSE:** This project will develop the methods and strategies by which students who have visual impairments can use assistive technology to gain access to the vast resources found on the Internet.

**METHOD:** Procedures involved in gaining access to the Internet using assistive technology by visually impaired persons will be task analyzed. A first draft of an instructional manual will be developed using this information. Eight students and their eight itinerant/resource teachers will be chosen from Illinois and Wisconsin high schools, and the appropriate assistive technology will be purchased. Teachers will be trained to use this technology in accessing the Internet, after which they will instruct their students in the methods and procedures developed by project staff. Students will further field-test these procedures. During the second half of the academic year, a 30-minute videotape will be produced to document the project. After the close of the academic year, revisions will be made in the manual, and a plan for effective dissemination of project findings will be disseminated.

**ANTICIPATED PRODUCTS:** The project manual (in all its formats) and copies of the videotape will be deposited in instructional materials centers for visually impaired students nationwide. The manual will also be submitted for publication and uploaded to the Internet. The videotape will be broadcast on Kaleidoscope (a disabilities television channel), and staff will appear on that network to describe the project and its findings.



## **MainePOINT (Providing Opportunities for Integrating New Technologies)**

### **PRINCIPAL INVESTIGATOR:**

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MainePOINT  
Augusta, ME 04330-9410  
207-621-3191

GRANT NUMBER: H180E20048

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** This project will research and evaluate the benefits of using state-of-the-art educational technologies to provide a multisensory environment for teaching American Sign Language to children who are deaf or hard-of-hearing.

**METHOD:** The project will design, offer, and evaluate a 30-week American Sign Language telecourse to students in grades 7 through 12 on 20 Maine schools over a 3-year period. The telecourse will incorporate interactive television, real-time captioning, camcorders, videotape, Phone Communicator, and computers to create a multisensory learning approach. The project will use a sample of at least 30 students who are deaf or hard-of-hearing to demonstrate, evaluate, and document the effectiveness of using the targeted technology to improve the education and expand the learning potential of students who are deaf or hard-of-hearing. Factors to be measured will include increased student ability to communicate in ASL, increases in level of literacy, and the broadening of students' knowledge and understanding of deaf culture. The project will also identify factors that promote or impede the optimal use and impact of the targeted technologies in the education of children with hearing impairments.

**ANTICIPATED PRODUCTS:** In addition to impacting the design and delivery of American Sign Language instruction in general, this project will contribute a range of written and videotaped products to the education community including a videotaped telecourse in ASL; a curriculum for teaching ASL in a multisensory environment; a course guide; a professional development model for teachers, special educators, guidance personnel, media specialists, administrators, and other education professionals; a technical support model for schools; a model for training students in the use of the technology; a model for self-directed learning using camcorders, videotape, and the closed-captioning VCR; and student-produced videos with real-time captioning.

### **Project Alive! Acquiring Literacy Through Interactive Video Education**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180H20034

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/96

### **ABSTRACT**

**PURPOSE:** This project will demonstrate and evaluate uses of interactive video as a means of increasing literacy development and interest among deaf and hard-of-hearing students.

**METHOD:** The project will use Thurston's START model, which indicates that Support, Time, Access, Resources and Training are all necessary for the

successful implementation of innovation in the classroom. An additional teacher empowerment model will emphasize extensive teacher control of the implementation process and extensive teacher involvement in decision making. Four programs - two residential schools and two public school programs - will participate in the 3-year project. Each program will select a team of teachers and administrators for participation, and participants will be involved in all phases of the project, including preparation, training, curriculum development, support, implementation, institutionalization, dissemination, and evaluation. Year One will focus on uses of captioned movies available on existing videodiscs. Year Two will expand uses of interactive video to materials developed by teachers and students in project sites. Year Three will focus on shifting from the external to internal support for interactive video, on conducting a summative evaluation, and disseminating results at regional and national levels.

**ANTICIPATED PRODUCTS:** Outcomes will include: (a) a databased, empirical description of the process by which interactive video was implemented in programs for deaf and hard-of-hearing students; (b) descriptions of contextual variables and student characteristics that may influence the success of implementing interactive video in the classroom; (c) a model of successful implementation based on these descriptions; (d) curricular materials for interactive video instruction; and (e) a video record of the implementation process, potentially for future use in training others for replication.

### **Integrating Captioning Technology with Mainstreamed Social Studies Instruction**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H180E30048  
BEGINNING DATE: 10/01/93

ENDING DATE: 9/30/95

#### **ABSTRACT**

**PURPOSE:** This project will explore the benefits of captioned television with all mainstreamed students with disabilities. Factors leading to the successful adoption of captioned television in mainstreamed classes will also be explored.

**METHOD:** The study will begin by conducting a baseline study of the factors related to the use of instructional television (without captions) and discovering attitudes and perceptions of captioning. The next step will be a collaborative effort in which project staff and teachers select segments from social studies related television shows and develop a set of teaching materials for each segment, delineating specific ways in which teachers can integrate the videos into the regular social studies curriculum. This will be followed by a pilot study conducted in two social studies classes in which staff will test research strategies, instruments, videos, and instructional materials. In subsequent stages, the project will increase the number of 8th grade classes to include an entire school and ultimately, the entire district.

**ANTICIPATED PRODUCTS:** In addition to the knowledge and understanding gained from the data collection and analysis effort, project products will include the following: 16 captioned video segments, with accompanying guidelines for integrating them into the science curriculum; four classroom vignettes of students

and teachers as they adapt to captioning technology; manuscripts submitted for publication in professional journals and the ERIC database; and a final report submitted to state and territorial Directors of Special Education.

### **Development of a Personal Caption Display Prototype to Benefit Students Who Are Deaf**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30040

BEGINNING DATE: 6/01/93

ENDING DATE: 5/31/96

#### **ABSTRACT**

**PURPOSE:** This project will develop a prototype personal caption display system that could be worn by students who are deaf.

**METHOD:** This system would use a set of special eyeglasses to provide a caption display. The glasses would be battery operated and would receive captions via a wireless link; captions themselves would be viewed in the lens, and the optical design would be such that the caption would appear to be projected onto a distant screen or other object. This imaging would save users from having to refocus their vision to read captions. While the primary application of this technology will be to provide captions for lecture portions of a lesson, further applications for captioning television, movies, and other media are also foreseen. In addition, by using several transmission frequencies, this technology could be used to simultaneously provide captions in multiple languages.

**ANTICIPATED PRODUCTS:** Development and testing of such a system could be a major breakthrough in captioning technology, providing a personal-level solution to many common captioning problems. With the development of such a wearable personal caption system, other major sources of aural communication would become more equally accessible to deaf persons.

### **PROJECT WRITE: Writing and Reading Instruction Through Technology, Educational Media, and Materials**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G20016

BEGINNING DATE: 1/01/93

ENDING DATE: 12/31/96

#### **ABSTRACT**

**PURPOSE:** This project will focus on: (1) investigating the availability, quality, use, and effectiveness of technology, educational media, and materials (TEMM) in current instructional settings for children with developmental disabilities; (2) conducting surveys and comparative case studies to test the generalizability of Phase I studies; and (3) conducting a series of intervention studies designed to advance the availability, quality, use, and effectiveness of TEMM based upon the findings of Phase I and II studies.

**METHOD:** Subjects will be children with developmental disabilities, ages 3-12, their families, and the professionals who address their literacy-learning needs in

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preschool and school settings. Three typical settings in which preschoolers are educated and three typical settings in which elementary school-aged children are educated will serve as principal research sites. A socio-communicative model of language and literacy use and a comprehensive model of the study of classroom teaching will serve as the frameworks driving the research. Qualitative and survey research methods will be the primary means of conducting Phase I and II research into the state of the art in the use of TEMM to promote literacy. Experimental designs will be employed in Phase III intervention studies.

**ANTICIPATED PRODUCTS:** Research findings will be shared through multiple means including: publication in peer-reviewed journals, publication in newsletters and journals for families of children with developmental disabilities and the professionals who serve them; and conference presentations, particularly the Carolina Literacy Symposium.

## **SS-SCAN! Single Switch Control Access for DOS and Windows Software**

GRANT NUMBER: RA94129009

BEGINNING DATE: 10/01/94

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** This project will develop and field-test a commercial prototype software package designed to provide users of single-switch input devices control access to educational software, multimedia programs, and recreational activities for IBM and PC-compatible computers.

**METHOD:** The SS-SCAN! Control access software will superimpose over an application program a scanning control display consisting of words, icons or other representations of functions needed to operate the program. SS-SCAN! will move a scanning selector and refresh the display in real-time while monitoring the state of an external adaptive switch connected to the PC serial port. Input from this switch will be translated into the appropriate keystroke, mouse function, or command chains to the running application. The major task of software design will be a thorough review of: (1) control access software currently available for other platforms; and (2) a sampling of the most popular and important software currently on the market to determine their control access requirements. New programming work will concentrate primarily on methods for creating and refreshing the dynamic scan superimposed over the original application's display; methods for sending command strings, moving the mouse and providing click/drag functions; and methods for dealing with a variety of needed PC display modes. This work should be completed by the fourth project month to allow time for development of the User's Guide. Evaluative field testing will follow, using potential users and potential teachers of users as test subjects.

**ANTICIPATED PRODUCTS:** Project deliverables will include monthly progress report letters and a final report due within 30 days of the end of Phase I, describing the research and development process, the commercial SS-SCAN! prototypes, results of the field evaluation, and an appraisal of the scientific feasibility of further work.

## **Enhancing the Writing Skills of Students with Learning Disabilities Through Technology: An Investigation of the Effects of Text Entry Tools, Editing Tools, and Speech Synthesis**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G40073

BEGINNING DATE: 8/15/94

ENDING DATE: 8/14/97

### **ABSTRACT**

**PURPOSE:** This project will study the effectiveness of one set of technologies (word processing tools) in improving the literacy skills of students with learning disabilities.

**METHOD:** Three separate pretest-posttest control group studies are planned to investigate one type of word processing tool each by comparing the performance of experimental groups, a control group of students with learning disabilities not receiving treatment, and a comparison group of general education students. In Year 1, four text entry strategies will be compared, including keyboarding instruction, alternative keyboards, word prediction, and word prediction with speech synthesis. The Year 2 study will contrast spelling and grammar aids, each with and without speech synthesis. The Year 3 study will investigate speech synthesis under several different conditions. A total of 640 students will serve as subjects, half with and half without learning disabilities. Data will be collected via writing samples, speed probes, and student observations and interviews. Group differences will be tested via analysis of covariance.

**ANTICIPATED PRODUCTS:** Results will be reported at national conferences and in professional journals targeting researchers, teacher trainers, and practitioners in general and special education.

## **Telecommunications in Literacy Intervention for Inner-City At-Risk Students and Those with Learning Disabilities**

### **PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20027

BEGINNING DATE: 10/01/92

ENDING DATE: 4/30/96

### **ABSTRACT**

**PURPOSE:** This project will establish a bicoastal "electronic village" in south central Los Angeles and Chinatown in New York City that will address the low level of literacy among at-risk students and those with learning disabilities through the motivation of communication through electronic networks.

**METHOD:** Electronic networks, word processing, desktop publishing, and various audio and video instructional media will be used by 112 at-risk students and 112 students with learning disabilities. Staff development training, ongoing technical assistance, and instructional and resource support will be provided by project personnel. Staff development will include training in the use of electronic



networks through e-mail and bulletin boards, desktop publishing, diverse instructional methods, and ongoing technical, curricular, and material support. The program will be documented by observational data such as videotapes of implementation and field notes. A database school-based assessment program has been created for implementation in the schools to provide administrators, teachers, and research staff with continuous information to aid decision-making for improvement of instruction.

**ANTICIPATED PRODUCTS:** Contributions to the theoretical knowledge base include provision of data on: (1) differential effects of literacy intervention using electronic networks and diverse instructional methods; (2) differences between inner-city at-risk students and students with learning disabilities from multiethnic, multicultural, and multilingual backgrounds on achievement scores, quality of writings, learning and social behavior, and literacy attitude as a function of a technologically-supported intervention program; differential effects of various promising intervention strategies integrated with state-of-the-art technology, interactive and communicative approach to literacy instruction, and a writer's workshop learning environment emphasizing writing processes; (4) use of comic books and audio cassettes of motivating materials such as old-time radio shows as stimuli; and (5) various administrative and evaluative procedures regarding technology integration into instructional practices.

### **Features That Support Learning by Secondary Students with Learning Disabilities**

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H180G20011  
BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** This project will investigate the instructional design of hypermedia textbooks to support reading, learning, and studying by secondary students with learning disabilities. Science textbooks will be the primary focus of the associated studies.

**METHOD:** Three studies will first investigate the use of speech synthesis with 9th- and 10th-grade students with severe and moderate learning disabilities. Speech synthesis will be investigated by itself and in combination with supports for strategic processing. Studies will then focus on the integration of video with text to provide explanations of key concepts and relate them to prior knowledge. Finally, studies will examine the use of graphic organizers to structure the activation of prior knowledge, reading of the text, and notetaking. The project will use as a research tool a software system for developing hypermedia textbooks called the Student Assistant for Learning for Text, which is designed to generate hypermedia texts including a variety of support features tailored to the needs of students with reading difficulties.

**ANTICIPATED PRODUCTS:** Results of this research will be generally applicable to the design of hypermedia systems for students with reading disabilities, as well as for students without disabilities. The most immediate



audience for dissemination of findings will be other researchers and developers interested in educational applications of technology in special education. Technical reports and results will be presented at local and national professional conferences and published in professional journals. In addition, findings will be presented at conferences of the publishing industry, since publishers will be key to the future development of textbooks in electronic formats.

### **Visual Involvement in Literacy: Reading and Discussing Books with 3- to 8- Year- Old Students Who Are Deaf and Hard-of-Hearing**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023N40040  
BEGINNING DATE: 8/01/94

ENDING DATE: 7/31/97

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is to perform a sociolinguistic study of successful involvement strategies in a visual modality that are used by teachers of varying backgrounds and styles. The subjects of the study will be equally divided between both hearing and deaf users of Manually Coded English (MCE) and American Sign Language (ASL).

**METHOD:** The project initially involves transcription and analysis of 10 videotaped reading activities by teachers and 10 videotaped discussion activities by teachers and students. First, five teachers (three hearing and two deaf) will be asked to read with their class one of two picture books, "Too Much Noise," which uses many words connected with sounds. Second, they shall be asked to involve their students in discussing the first book after hearing the story. The same five teachers will then read a second book, "Five Chinese Brothers," which uses many words connected with vision, again followed by a discussion of the story with the class. The total number of students will be 52, and students shall be videotaped as well.

**ANTICIPATED PRODUCTS:** This project will provide an empirical basis for the transcription and analysis of successful involvement strategies; the transcription and analysis of teachers' and students' interaction in discussion; and an understanding of how the involvement strategies are impacted by the teacher's target language and audiological background. The result will be a research-based model for developing inservice training for teachers, parents, and others who wish to read and discuss with students, to develop or enhance techniques for creating interpersonal involvement as well as to become more involved in discussion in a visual modality.

**Effects of Individualized Closed-Captioned Video  
Prompt Rate on Reading Skills of Elementary Students  
With and Without Disabilities in Inclusive and  
Noninclusive Classrooms**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E30034

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

**ABSTRACT**

**PURPOSE:** This project will examine and demonstrate how individualizing the closed-caption prompt rate, manipulated to match each student's reading level and comprehension reading rate, can be a successful technological reading approach.

**METHOD:** A cluster equivalent materials design comprised of two groups of 4th-grade students who are mildly disabled and nondisabled in two classroom environments (inclusive and noninclusive) will participate in a limited pilot study and a full-scale study for 1 academic year. These groups of students will receive alternate treatments of: (1) digital video interactive materials with individualized prompt rate; and (2) closed-captioned videotapes with no individualization of prompt rate. A demonstration of this technology in both inclusive and noninclusive classrooms will be conducted during Year 3 of the grant. Appropriate data analyses will be applied, results graphed, interpreted, reported, and disseminated.

**ANTICIPATED PRODUCTS:** Results from this project will give educators new directions in improving reading level, comprehension, and retention skills in elementary students. In addition, hypermedia technology will be demonstrated and training offered for interested educators and policy makers at school-based demonstration sites. Videotape as well as CD-ROM products will be produced for a national educational market for implementation and replication.

**Object Linking and Embedding Graphical User  
Interface Descriptive Environment (OLE Guide) - A  
Software Tool That Enables Better Access to Graphic  
Based Computer Programs for Users with Visual  
Impairments**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180T40011

BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/96

**ABSTRACT**

**PURPOSE:** This project will design, develop, and test an innovative software architecture to provide a significant improvement in access by users with visual impairments to graphically-based software.

**METHOD:** This project will use an innovative multiple task approach for converting the graphic screen to speech or Braille. A new computer standard

called Object Linking and Embedding (OLE) will be used to enable one program to communicate with another. OLE will provide the means for access software to communicate directly with application programs instead of simulating or modeling the actions of the operating system. The OLE Graphical User Interface Descriptive Environment (OLE GUIDE) will attempt to provide good access to the Microsoft Chicago Operating System.

**ANTICIPATED PRODUCTS:** Through this adapted access to the Chicago system, users with visual impairments will be given access to line charts, bar graphs, and pie charts, as well as other graphic components of computer applications. The publication of a monthly "OLE GUIDE Progress Report" will outline the project's ongoing problems, solutions, and findings. This report will be available via Internet and will also be used to maintain lines of communication with Microsoft, field staff at the American University, and other interested parties. Papers on the progress of the project will be presented at leading conferences dealing with the interests of people with disabilities and will be submitted for publication in relevant professional journals.

### **Making CD-ROM Reading Software Accessible to the Deaf**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30008

BEGINNING DATE: 10/01/93

ENDING DATE: 9/31/96

#### **ABSTRACT**

**PURPOSE:** This project will improve the reading skills of students who are deaf by adding Signed English and American Sign Language to the printed word to existing CD-ROM software.

**METHOD:** The project will adapt existing CD-ROM software so that it is beneficial for the deaf, create new CD-ROM reading materials for the deaf, and produce a model for developers and publishers that details how to adapt existing CD-ROM software for the deaf. These materials will be adapted, created, and produced for elementary, middle, and high school students who are deaf. The project will evaluate student progress in vocabulary, picture word association, syntactic constructions, sign to printed word, and ASL understanding. This evaluation will include students who use unmodified software and students who use the modified software.

**ANTICIPATED PRODUCTS:** The evaluation findings and software development requirements will be presented at conferences for educating the deaf and technology applications. In addition, this project will contract with a commercial distributor of computer software to market the CD-ROM reading software for students who are deaf.

**PRINCIPAL INVESTIGATOR:**

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## MILE Curriculum

GRANT NUMBER: H180T40138  
BEGINNING DATE: 10/01/94

ENDING DATE: 9/30/96

### ABSTRACT

**PURPOSE:** The purpose of this project is to develop a videodisc-based curriculum for teaching applied money management skills necessary for adolescents and young adults who are deaf and "lower-achieving" to transition successfully to adult life.

**METHOD:** As part of research related to the development and validation of the Transition Competence Battery for Deaf Adolescents and Young Adults (TCB), the applicants have identified money management skills needed for this population to cope with independent adult life. Using the TCB content base, staff will insure the direct relevance of the videodisc curriculum to the needed skills. In Year 1 staff will conduct a series of development activities with both deafness professionals and persons who are deaf to insure that the curriculum is conceptually accurate, instructionally powerful, and linguistically appropriate. In Year 2 the curriculum will undergo intensive pilot-testing in mainstream and residential educational settings prior to finalization.

**ANTICIPATED PRODUCTS:** Dissemination of project findings will include a project newsletter, publications, and presentations. A private publisher will be sought to increase the visibility and use of the curriculum.

### Integrated Curriculum and Lifestyle Knowledge

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E30016  
BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

### ABSTRACT

**PURPOSE:** This project will develop, implement, and evaluate powerful instructional interventions employing multimedia-based anchored instruction coupled with an integrated curriculum in the areas of literacy (reading and writing) and social studies.

**METHOD:** The project will be implemented in the Williamson County School System, which currently serves 12,216 students in 20 schools, including almost 1,800 students with various disabilities. Eighth-grade students with mild disabilities who are experiencing learning problems and who are receiving special education services either in mainstream settings or through building-based resource rooms will be the target population. The project will be implemented in one middle school building per project year, including one mainstream social studies program and one resource room program. Instructional interventions will be developed incorporating research findings from the areas of cognition and computer/videodisc technology for students with mild disabilities. The curriculum will incorporate "life lessons" to enhance students' planning, survival behavior skills, and employment possibilities by integrating authentic problem situations into the

subject-area curriculum. This will be done using multimedia technology, including videodiscs controlled by Hypercard on Macintosh LICC computers through an anchored instruction model.

**ANTICIPATED PRODUCTS:** Project products will include the following: (1) publication of information about videodiscs developed under the grant; (2) manuscripts describing project results for publication in special education journals; and (3) conference presentations at local, regional, and national professional gatherings.

## **An Analysis of Organizational Support and Professional Development Strategies Designed to Enhance Instruction and Improve Outcomes for Students with Disabilities**

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GRANT NUMBER: H180A40030

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/97

### **ABSTRACT**

**PURPOSE:** The project will analyze a range of multilevel professional delivery systems training teachers of students with disabilities to incorporate multimedia technology into contextualized learning environments, and to develop, field-test, and disseminate multimedia training materials.

**METHOD:** During the first of 3 project years, the project will work closely with special education teachers and principals (N=30) to identify, implement, and analyze the efficacy of three organizational support and professional development activities. The first set of activities will entail utilizing materials developed by Peabody researchers between August and December to train special education (N=15) and building administrators (N=15). Second, a series of studies will be conducted between January and June to examine the efficacy of models of staff development coupled with different organizational support levels. Third, training materials based on research outcomes will be developed that describe strategies for staff development training programs. These activities will be the foundation for materials training teachers to modify instructional environments to produce improved teachers and students behavioral outcomes. During the second project year, the project will focus on: (1) formatively and summatively evaluating training packages with groups of local and national special education teachers; and (2) analyzing the efficacy of staff development and instructional intervention strategies. In the third project year, all training materials will be summatively evaluated and disseminated nationally.

**ANTICIPATED PRODUCTS:** Staff will develop two sets of multimedia training materials. The first set will be designed to enable teachers to effectively use anchored instruction with multimedia technology to instruct students with disabilities. The second will describe strategies to organize, deliver, and evaluate building-based staff development training activities.

## Multimedia to Help Students with Disabilities Become Critical Consumers of Postsecondary Opportunities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: RA94129007  
BEGINNING DATE: 10/01/94

ENDING DATE: 3/30/94

### ABSTRACT

**PURPOSE:** The project will investigate the feasibility of developing an integrated instructional package for secondary students weighing postsecondary opportunities, including a multimedia application, videotape, and educator's guide.

**METHOD:** The Phase I study will: investigate specific informational needs of adolescents with disabilities; develop a preliminary product design; identify appropriate technologies; and develop a final product design to guide Phase II development efforts. Specific needs to be met will include self-assessment, understanding of disability legislation, information-seeking, decision-making, and self-advocacy skills. Special attention will be paid to: identifying appropriate content and instructional approaches; defining target audiences; investigating the possibility of creating a program component for parents' use; and evaluating technologies in light of both ability to support the program design and likely availability in schools in the near future.

**ANTICIPATED PRODUCTS:** Products will include the instructional package, including a videotape, interactive multimedia application, and print materials to assist adolescents with disabilities in becoming critical consumers of postsecondary opportunities. A separate product will be the pursuit of an agreement with a commercial publisher to produce and market the program.

## Access Through Captioning: An Improved Captioning System for Programs That Serve Deaf and Hard-of-Hearing Students

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30036  
BEGINNING DATE: 9/12/93

ENDING DATE: 9/12/96

### ABSTRACT

**PURPOSE:** This project will develop a captioning system for school use that is affordable, easy to use, and appropriate to the varied educational needs of students who are deaf or hard-of-hearing.

**METHOD:** The project will use a captioning workstation to improve delivery of curriculum content to deaf and hard-of-hearing students; it will also explore the possibilities inherent in making other materials and events, such as audiotapes and school performances, accessible via external display devices. The project will focus on the use of captioning in language arts classes, drawing on the researchers' work in the creation of computer-based reading and writing supports for people with language difficulties. The Center for Applied Special Technology and WGBH will work collaboratively with three schools for the deaf, and an



advisory group will contribute to the project. Consumers will be actively involved throughout the project, and the project will collect feedback through site visits, project meetings, and national conferences.

**ANTICIPATED PRODUCTS:** The system resulting from this project will be powerful, intuitive, and easy to learn for both adults and children. It will be the first full-featured system available to schools and will be an improvement over other nonprofessional captioning systems.

## **EEG Driven Audio-Visual Stimulation Unit for Enhancing Cognitive Abilities of Boys with Learning Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: RA94130002

BEGINNING DATE: 10/01/94

ENDING DATE: 3/31/95

### **ABSTRACT**

**PURPOSE:** The project will develop an inexpensive and portable biofeedback device and test it for use in treating students with attention deficit disorders and learning disabilities.

**METHOD:** During Phase I, the original EEG unit was developed to produce EEG/audiovisual stimulation (EEG/AVS) entrainment across a range of brain wave frequencies. Visual and auditory entrainment was designed to sequentially increase and decrease brain wave frequencies to extend the range of frequencies available. During Phase II, project staff will explore in depth the use of a second generation EEG/AVS device by public school personnel in a school setting with an array of students with LD/ADD and LD/ADHD. Following this, a comparison will be made between children receiving biofeedback training and those receiving prescribed treatment drugs. Data will be analyzed to determine relationships between brain wave change and behavioral and cognitive improvement. The project will finally establish a business plan in order to seek funding for market expansion.

**ANTICIPATED PRODUCTS:** The primary product in Phase II will be the further refinement of the second generation EEG/AVS training device to collect and store multiple training sessions. A set of comparative data establishing the biofeedback device's efficacy relative to the use of stimulant drugs will also be established, with the expectation that EEG/AVS training will achieve slower but longer-lasting results with no significant side effects.

## Technology Information and Education Systems (TIES) Project

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E30024

BEGINNING DATE: 5/01/93

ENDING DATE: 4/30/96

### ABSTRACT

**PURPOSE:** This project will evaluate the benefits of the innovative uses of specific applications of technology to improve the education and expand the learning potential of children with disabilities under age 10, especially in the acquisition of communication and other language arts skills.

**METHOD:** In Phase I, the impact of the existing technology transfer and training system upon the integration of technology in the classroom and its effects upon the instructional needs of children will be measured and evaluated. In Phase II, factors shown to promote relevant technology transfer and training, and the selection of suitable equipment, adaptive devices, and materials for the students will be incorporated in and offered through an enhanced system. In Phase III, project staff will document the effects of implementing this enhanced system to determine any positive outcomes for teachers and students. The areas of measurement will include student skills and competencies, the process of technology-focused decision-making on the part of the teacher, and classroom management. In Phase IV, findings from the project will be disseminated throughout the country, resulting in more useful technology applications and enhanced opportunities for learning for children with disabilities.

**ANTICIPATED PRODUCTS:** Dissemination products and activities anticipated will include presentations at regional and national conferences, provision of technical assistance to facilitate replication, preparation of documents and other usable material for dissemination, and production and dissemination of instructional videotapes to show various adaptive devices and their uses.

### Picture Reading to Promote the Literacy of Students with Moderate and Severe Disabilities

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G20020

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### ABSTRACT

**PURPOSE:** Specific project goals will include: development of materials and procedures to more effectively teach recombinative picture learning; field-testing and refining these materials and procedures based upon learning and psychosocial factors; and dissemination of the picture reading system for use in applied settings.

**METHOD:** The existing picture reading system uses 22 picture symbols to depict actions and/or locations that can be recombined with nouns (represented as pictures of objects) to form a "written instruction" format that is relatively easy to learn. The first study will involve interviews with a representative sample of individuals in various occupations to determine the types of actions most frequently

used in their work, leisure, and daily living tasks. A second study will determine the relative difficulty of these actions by testing a large number of children ages 6 through 20 who have moderate and severe intellectual disabilities. The third study will investigate the most efficient methods for teaching the response classes of the picture symbols using general case instruction technology.

**ANTICIPATED PRODUCTS:** Results of these studies will lead to the development of a replication guide that can be used to provide training in picture reading to students with moderate and severe intellectual disabilities. Results of all studies will be submitted for publication in appropriate professional journals regardless of outcomes. An initial set of 50 replication guides will be produced for distribution commercially or through a university publication. Project staff will also provide technical assistance and inservice training on request.

### **The Personal Communicator: Empowering Deaf Learners in Social Interactions**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180J30013  
BEGINNING DATE: 8/16/93

ENDING DATE: 8/15/96

#### **ABSTRACT**

**PURPOSE:** This project will enable deaf students to better communicate with their peers, teachers, and other associates, deaf or hearing, using a portable, multimedia communication device called the "personal communicator."

**METHOD:** A case study approach will be used over a 2-year period to provide an in-depth analysis of the application of the "personal communicator" on Macintosh PowerBooks and next-generation computers referred to as Personal Digital Assistants with deaf children at elementary through secondary school levels. Videotapes of randomly selected classroom periods at 2-month intervals will be analyzed to assess the frequency and content of social interactions between deaf and hearing students and between deaf students and hearing teachers. In addition, researchers will assess attitudes toward integration of all hearing teachers and hearing classmates of deaf subjects, by randomly sampling written dialogue entries between dyad members to also assess written language competency.

**ANTICIPATED PRODUCTS:** The "personal communicator" is designed to impact deaf subjects' social interactions with hearing classmates and teachers in participating classrooms. Social integration skills learned through the use of the "personal communicator" are likely to generalize to situations outside the classroom. Teacher and student attitudes toward integration are likely to improve when deaf students demonstrate positive social interactions.

## Development and Evaluation of a Computer-Aided Speech-to-Print Transcription System

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: H180J30011  
BEGINNING DATE: 12/01/93

ENDING DATE: 11/30/96

### ABSTRACT

**PURPOSE:** This project will develop and evaluate a real-time speech-to-print transcription system that can be employed as a support system for deaf students.

**METHOD:** The system will use a hearing transcriber and a computer program to convert speech into print as the words are being spoken. The system will provide a real-time text display that the student can read to understand what is being said in a classroom. In addition, the text file stored in the computer can be examined by students, tutors, and instructors by reading the computer monitor or a hard-copy printout. The system will use a laptop computer and common word processing software, as well as procedures for "compressing" or reducing the text when speech becomes rapid. Following refinement of the basic system, the package will be evaluated in the classroom through: (a) evaluation of technical performance, (b) questionnaire of users, (c) in-depth interviews, (d) study of operators' use of the system, and (e) study of the system in implementation at the secondary level. Operators and other personnel will be trained in key procedures, and operator training procedures will be refined and evaluated.

**ANTICIPATED PRODUCTS:** This project will produce a field-tested and validated system to create computerized text files of classroom speech, which will not only serve the needs of deaf and hearing-impaired students, but also create documentation for many other uses. The system also has the potential to facilitate the communication of deaf persons in work settings and could be useful for other groups of students, such as students with learning disabilities.

## Development of a Neural Network-Based Inclusion Simulation Model

**PRINCIPAL INVESTIGATOR:**  
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GRANT NUMBER: RA94129014  
BEGINNING DATE: 10/01/94

ENDING DATE: 3/31/95

### ABSTRACT

**PURPOSE:** The project will develop a computerized Inclusion Simulation Model through the utilization of neural net-based technology.

**METHOD:** Phase I will evaluate the feasibility of providing technology that fosters inclusive preschool practices through utilization of the ability of neural networks to recognize patterns and interactions among variables. The Inclusion Simulation Model (ISM) will be built by entering dependent variables, independent variables, and other known conditions from relevant research and will be evaluated by observing responses to incremental changes in ISM inputs and by testing its ability to predict research findings. The model will provide for systematic alteration of variables through 10 prototype classrooms and

consequent shifts in predicted outcomes for 200 children in integrated preschools. Due to its ability to interpolate, make rapid connections, and recognize patterns that may have been previously undiscovered, the final product will allow administrators to demonstrate what will or won't work within an inclusion model designed for a specific classroom school building or district given the parameters available to that administrator.

**ANTICIPATED PRODUCTS:** It is anticipated that the demonstrated viability of this model will lead to the Phase II development of a model to guide the decision-making process by schools regarding distribution of resources, creation of support structures, and what processes, norms, and relationships to establish at the school for the development of effective and inclusive school and classroom climates.

### **The Efficacy of Transient Evoked Otoacoustic Emissions in Identifying Hearing Loss in Children with Developmental Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H023C30039

BEGINNING DATE: 9/01/93

ENDING DATE: 8/31/96

#### **ABSTRACT**

**PURPOSE:** The purpose of this project is twofold: (a) to identify hearing loss in children with already confirmed disabilities using traditional audiometric screening and assessment procedures combined with recently developed technology using Transient Evoked Otoacoustic Emissions (TEOAE) testing; and (b) to compare the sensitivity and specificity of traditional screening programs with TEOAE testing programs in a group of normal children and a group of children identified as having one or more disabilities.

**METHOD:** Approximately 750 students between the ages of 5 and 7 who are currently classified with one or more disabilities will be screened for possible hearing loss using TEOAE and traditional audiometric procedures. The TEOAE testing procedure allows for a quick, noninvasive test of cochlear function without assistance from the person being evaluated, and thus is expected to allow for early detection among children with developmental disabilities in particular.

**ANTICIPATED PRODUCTS:** Major products of this project will include: (1) sensitivity and specificity measures of traditional pure tone screenings as compared to TEOAE screenings; (2) a cost-effectiveness comparison of TEOAE procedures and traditional audiometric screening techniques; (3) recommendations for use of TEOAE with various degrees and types of developmental disabilities in children; (4) an analysis of demographic variables contributing to delayed identification of hearing loss among children confirmed as hearing-impaired; (5) data regarding the perceived utility of TEOAE to identify children with hearing loss in school settings; and (6) a videotape and procedural manual.

## Teaching Workplace Literacy

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180G40079

BEGINNING DATE: 1/01/95

ENDING DATE: 12/31/97

### ABSTRACT

**PURPOSE:** This project will articulate how interactive instruction can be used to foster higher order thinking and how cooperative learning, specifically the group investigation method, will promote interpersonal skills development for secondary students with learning disabilities.

**METHOD:** The first study will examine the effects of the interactive instructional model on higher order thinking in mathematics. Relying on a mastery of basic mathematical concepts, students will use elementary spreadsheet skills to calculate averages, determine trends in data, and ask "what if" questions. The second study will build on Study 1 by linking math problem solving to expository writing. Again, the interactive instructional model will be used. The third study will shift focus from higher order thinking to interpersonal skill development, examining the integration of mathematical problem solving and expository writing in the context of cooperative learning. The final study will be an evaluation of our interactive instruction and cooperative learning practices to teaching workplace literacy at Phase 1 of secondary schools. This study will occur in mainstreamed classroom settings and will closely examine how the systematic research conducted earlier in experimental conditions translates into actual practice.

**ANTICIPATED PRODUCTS:** The main product of this project will be the Integrated Learning Curriculum, containing exercises for integrating mathematical problem solving, expository writing, and strategies for structuring cooperative learning groups for this kind of instruction. This material will be designed explicitly for practitioners and inservice courses. Instructional vignettes will also be recorded on videotape for further dissemination.

## Computer-Assisted Cooperative Learning in Mathematics in Integrated Classrooms for Students with and Without Disabilities

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GRANT NUMBER: H023N40027

BEGINNING DATE: 9/01/94

ENDING DATE: 8/31/96

### ABSTRACT

**PURPOSE:** The project will analyze the effects of computer-assisted cooperative learning in mathematics instruction within integrated educational settings.

**METHOD:** In the first project year, heterogenous students (including regular education and students with mild disabilities) in integrated classrooms will be grouped to learn math with the help of computer technology in class. A commercial computer software package will be used to teach math concepts,



computation, applications, and problem solving. Effects of cooperative learning will be examined by comparing this instructional method with traditional whole-class teaching and learning. Subjects will include 120 5th-grade students, 30 of whom have disabilities. Six math teachers will be randomly assigned either to cooperative learning or whole-class instruction. In the second project year, computer-assisted math learning methods will be used for 160 5th-grade students, 40 of whom have disabilities, in integrated classrooms. Effects of cooperative learning with computer-assisted instruction compared to an individual learning method will be measured. A pre-post test comparison group design with students nested within teachers will be used. Outcome measures will assess students' math achievement, attitudes toward math and computer-assisted curricula, and social relationships among students in the integrated classrooms. In addition, interviews will be conducted with the students with disabilities to investigate their attitudes and feelings in the class.

**ANTICIPATED PRODUCTS:** Project staff will present study results at a regional conference for regular education and special education teachers and practitioners. Results will also be presented in at least two national conferences for professionals in math education and special education. Furthermore, project findings will be published in journals addressing both research and practical applications. Consultation will also be provided to local regular and special education teachers based on the procedures used and the results obtained in the studies.

## **Make it Happen! The Impact of Innovative Technologies to Support Inquiry-Based Instruction on Adolescents with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180E20011

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/95

### **ABSTRACT**

**PURPOSE:** The goal of this project is to rigorously evaluate the impact of innovative technologies on students with learning and emotional disturbance disabilities under optimal teaching and learning conditions.

**METHOD:** Using both qualitative and quantitative methods, teacher and student implementation of the curriculum unit design and student growth will be measured to include: (1) demonstration of inquiry-based learning skills and processes; (2) acquisition of knowledge; and (3) enhanced motivation and self-esteem. The specific objective is to design a seamless integrated software environment to include: (1) applications for gathering, manipulating, and representing information; (2) a procedural facilitation for students to use these applications; and (3) tools for teacher planning, teaching, and student assessment.

**ANTICIPATED PRODUCTS:** The following outcomes are expected: (1) findings on the effective use of innovative technologies and active teaching practices to support inquiry-based learning for students with disabilities; (2) tools to assess growth in inquiry-based learning, on and off the computer; (3)

technology-based procedural facilitation tools for teachers and students that support inquiry-based learning; (4) concrete examples in written and video formats of technology-supported, inquiry-based instruction for students with disabilities and (5) specific procedures and guidelines for implementation of the innovations in other settings.

**Practice Improvement Center on the Effective and Efficient Use of Technology, Media, and Materials in the Provision of Education and Related Services to Children and Youth with Disabilities**

**PRINCIPAL INVESTIGATOR:**

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GRANT NUMBER: H180N20013

BEGINNING DATE: 10/01/92

ENDING DATE: 9/30/97

**ABSTRACT**

**PURPOSE:** This project has two goals: (1) to collect, analyze, validate, and extend extant research regarding effective and efficient use of TMM to improve outcomes for children and youth with disabilities; and (2) to provide access to research and promote its usage by practitioners so that they may better meet the educational and related service needs of children and youth with disabilities.

**METHOD:** A Delphi method will be employed with key stakeholders from each of several disability groups to identify priorities for that group. Based on these findings, staff will select topics for review and dissemination and revise the strategic plan accordingly. For each topic identified, research leaders, with input from others in their area of expertise, will synthesize extant research literature. Based on the strength and consistency of research findings, project staff will carry out one or more follow-up activities to validate and extend the findings. Among follow-up methods to be employed will be telephone surveys, focus group sessions, on-site field visits, video conferences with facilitated discussion at designated download sites, and commissioned research that extends ongoing research efforts.

**ANTICIPATED PRODUCTS:** Formats for dissemination efforts will include: (1) research briefs; (2) training manuals; (3) videotapes with accompanying print materials; (4) an on-line multimedia magazine containing text, still pictures, sound, and video; (5) videoconferences broadcast via PBS stations across the country; (6) tapes of teleconferences with accompanying facilitator's guides; and (7) electronic bulletin board discussions.

## Pathways for Learning

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GRANT NUMBER: H180A40069

BEGINNING DATE: 6/01/94

ENDING DATE: 5/31/97

### ABSTRACT

**PURPOSE:** This project will develop, demonstrate, evaluate, and disseminate effective organizational support and professional development strategies that promote the effective use of technology, media, and materials (TMM) to improve learning outcomes for students with disabilities in grades 1-8.

**METHOD:** Within the project approach, regular and special education teachers across grade levels (e.g., grades 1-3, 4-6, or 6-8) will form a Pathway Team. As a team they will design, implement, and evaluate curricula that span their grade levels, focus on outcomes that revolve around building deep understanding and communication, and integrate a variety of TMM applications to meet student needs. A designated group of students, including those with cognitive, physical, sensory, and emotional disabilities will be included in the pathways. As a group, these students will travel from one teacher on a Pathway Team to another through successive grades, provided with the technology they need to make all transitions smooth. Over the 3 project years, staff will carry out a formative evaluation to gather evidence about the success of the components, problems that arise, and repertoires of solutions devised. Staff members will collect all data through observations of meetings and classroom instruction, interviews, and collection of work samples, as well as videotaping the progress of selected students. Intervention efforts will combine organizational support and professional development, consisting of three structures to promote collaborative work among stakeholders: a district-wide Coordinating Committee, School Management Groups, and school-based Pathway Teams of teachers. Electronic networks, video conferences, and print materials will support the work of these three structures.

**ANTICIPATED PRODUCTS:** As a result of this project, district administrators will develop an understanding of cooperation between stakeholders, a cadre of facilitators will be created that can promote change throughout school districts, and regular and special education teachers will more easily work together in collaborative Pathway Teams.

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