

National Center for Special Education Research (NCSEER)

The following are summaries of all grants, contracts, and cooperative agreements in excess of \$100,000 funded through NCSEER and awarded in fiscal years 2011 and 2012, as required by the Education Sciences Reform Act of 2002.

Grants

Autism Spectrum Disorders

Hugo W. Moser Research Institute at Kennedy Krieger, Inc.

Principal Investigator: Rebecca Landa

Amount: \$1,499,815

Award Number: R324A120330

Period of Performance: 7/1/12-6/30/15

Description: *Development of a Social and Communication Intervention for Preschoolers with Autism* — The special educational needs of children with autism spectrum disorders (ASD) are extensive. Educators face practical problems such as targeting the core social and communication deficits of children with ASD in group instructional settings. To address these concerns, there is a need for evidence-based, cost-effective educational and service delivery models to treat these children. The purpose of this research is to develop and document the feasibility and promise of a social and communication curriculum supplement, Early Achievements.

Rady Children's Hospital Health Center

Principal Investigator: Aubyn Stahmer

Amount: \$2,545,268

Award Number: R324A120054

Period of Performance: 6/1/12-5/31/16

Description: *Examining the Efficacy of Classroom Pivotal Response Teaching in Classroom Environments* — With rates of autism spectrum disorders (ASD) increasing, public schools are straining to provide high-quality, evidence-based programs for these students. To date, most evidence-based practices for students with ASD have been designed for use in one-on-one or highly controlled settings. Little research to date has examined the effectiveness of specific techniques in the context of school systems. The purpose of this project is to conduct a randomized trial of an intervention called Classroom Pivotal Response Teaching, an intervention specifically adapted for use in classrooms for children with ASD.

SRI International

Principal Investigator: Mary Wagner

Amount: \$699,947

Award Number: R324A120012

Period of Performance: 3/1/12-2/28/14

Description: *Factors Associated with Positive Outcomes for Children and Youth with Autism: Secondary Analysis of Data from SEELS and NLTS2* — The rapid growth in the number and diversity of children and youth served under Part B of the Individuals with Disabilities Education

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Act under the category of autism represents a significant challenge for educators across the country. There is still much to be learned about the types of school-related interventions (e.g., instructional programs and settings, learning supports, supplemental and related services, and accommodations and modifications) that can be used to improve school and postsecondary school outcomes for students with autism. This research team will use extant data from the Special Education Elementary Longitudinal Study (SEELS) and the National Longitudinal Transition Study-2 (NLTS2) to determine what school-related interventions are associated with academic, social/behavioral, occupational, and independence outcomes for children and youth with autism throughout the school years and into early adulthood.

University of California, Riverside

Principal Investigator: Jan Blacher

Amount: \$1,179,553

Award Number: R324A110086

Period of Performance: 7/1/11–6/30/14

Description: *Successful Transition in the Early School Years for Children with Autism* — Research has demonstrated that the quality of children's relationships with their teachers is related to their subsequent academic and social adjustment. The quality of student-teacher relationships (STR) may be particularly important for children with autism spectrum disorders (ASD) and other developmental disabilities because these children are less likely to be successful in building positive relationships that may help protect them against later school adjustment problems. This study will examine how young children with ASD adjust to early schooling, focusing on STR quality. The purpose is to investigate how child characteristics relate to STR quality for students with ASD; how STR quality, in turn, relates to the child's school outcomes; and how parent and school factors moderate these relationships. The research team will also explore parents' perceptions of their children's transition to school in order to understand the challenges faced by children with ASD and potentially helpful influences on the transition.

University of Colorado, Denver

Principal Investigator: Phillip Strain

Amount: \$1,198,674

Award Number: R324A110246

Period of Performance: 9/1/11–8/31/14

Description: *LEAP–USA Follow-up Project* — According to the Centers for Disease Control, at the time of this application, autism was increasingly becoming a public health crisis with a prevalence that had reached 1 in 110. To provide early intervention, LEAP–USA was developed as a comprehensive intervention model for preschool children with autism. Based on inclusion with typically developing peers, LEAP–USA aims to provide intervention and early education for young children with autism in a manner that does not tax school systems' limited resources. The first randomized controlled trial (RCT) of LEAP has recently been completed, comparing the full-scale model with training to a reduced one. The evaluation demonstrated positive impacts in the areas of child cognition, language, social skills, and symptom severity. The purpose of the current project is to follow these same children who participated in the original RCT over 3 years. The researchers will examine whether: (a) the gains demonstrated in the previous evaluation continue to manifest themselves; (b) positive impacts are found in additional areas (classroom placement, academic achievement, use of supportive services); and (c) contemporaneous classroom quality is related to student outcomes.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

University of Oklahoma Health Sciences Center

Principal Investigator: Bonnie McBride

Amount: \$2,600,000

Award Number: R324A120232

Period of Performance: 7/1/2012-6/30/2016

Description: *Project DATA: A Multisite Evaluation of a School-based Model for Preschoolers with Autism* — The prevalence of autism spectrum disorders (ASD) has risen dramatically in the 10 years prior to 2012 and children are being identified at earlier ages, putting pressure on school districts to provide effective interventions for these young children. One comprehensive treatment model that aims to address this need for effective early intervention is Project DATA (Developmentally Appropriate Treatment for Autism), which blends practices from the fields of applied behavior analysis, early childhood education, and early childhood special education. The purpose of this research is to evaluate Project DATA for preschool children using a two-arm randomized controlled trial.

Cognition and Student Learning in Special Education

Colorado State University

Principal Investigator: Deborah Fidler

Amount: \$881,222

Award Number: R324A110136

Period of Performance: 3/1/11–2/28/15

Description: *Executive Functioning and Academic Skills in Down Syndrome* — Down Syndrome (DS) is the most common genetic cause of intellectual disability. In addition to other documented cognitive problems, preliminary evidence suggests that children with DS may have deficits in certain executive functioning (EF) skills—cognitive processes that are important for adaptive, goal-directed actions. The potential EF deficits in children with DS may have critical educational implications. In typically developing children, EF skills are associated with early school performance. Further, there is preliminary evidence that the impairments in children with DS may be in those particular EF skills (e.g., working memory) that are stronger predictors of achievement and learning than other EF skills. This study will characterize the profile of relative strengths and weaknesses in certain executive functioning (EF) skills in children with DS compared to children with other intellectual disabilities and typically developing children. More specifically, the research will examine whether “cool” EF skills (i.e., those with primarily cognitive demands, including working memory and planning) are more impaired in children with DS than “hot” EF skills (i.e., those that incorporate affect and motivation, including inhibition and set shifting). Further, the study will investigate how EF skills are associated with academic and related skills in each group of children, how EF skills in kindergarten relate to academic skills in second grade, and whether there are group differences in the development of EF skills over time.

University of California, Davis

Principal Investigator: Peter Mundy

Amount: \$1,548,458

Award Number: R324A120168

Period of Performance: 3/1/12–2/28/16

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Description: *Virtual Reality Applications for the Study of Attention and Learning in Children with Autism and ADHD* — Children with high-functioning autism frequently exhibit achievement difficulties, especially in the areas of reading comprehension and written expression. Social attention impairment, a symptom of autism, may play a critical role in the learning difficulties of these children. Social attention impairment in autism encompasses three related problem domains: joint attention, social orienting and attention to faces. To engage effectively in social learning within a classroom, children must be motivated and readily able to attend to other people to share and receive meaningful information. The complex social and cognitive contexts of classrooms, in which social attention must be regulated in interaction with multiple social partners, makes social learning even more complicated for school-aged children with autism. This project will apply new virtual reality technology to create visual and auditory settings that emulate complex social environments such as classrooms. Using such technology, researchers will examine the following questions: (1) Will students with autism display significant impairments in the development of social attention skills, and will individual differences in social attention be associated with measures of cognitive processes involved in learning, academic achievement (reading comprehension, written and oral expression, and mathematics) and social outcomes? (2) Will impairment in social attention make a unique contribution to processes that may inhibit learning, academic success and social success in students with autism? (3) Will the presence of symptoms of Attention Deficit Hyperactivity Disorder (ADHD), which is often co-morbid with autism, mediate or moderate the impact of social attention on learning and development in students with autism? (4) Will social attention be malleable, with practice in social attention tasks leading to improved performance on those tasks for students with autism?

University of Minnesota

Principal Investigator: Kristen McMaster

Amount: \$1,437,331

Award Number: R324A110046

Period of Performance: 9/1/11–8/31/14

Description: *Making the Right Connections: Improving the Comprehension of Struggling Readers* — Eighty percent of students with learning disabilities have severe reading difficulties. Late elementary school, when comprehension of more challenging content is required, is a time when some students first begin to develop reading difficulties. Therefore, this project focuses on addressing this problem in fourth grade by developing one or more interventions to improve reading comprehension for students at risk for or identified as having a reading-related disability.

Vanderbilt University

Principal Investigator: Fred Bess

Amount: \$1,495,212

Award Number: R324A110266

Period of Performance: 7/1/11–6/30/15

Description: *Fatigue and Listening Effort in School-Age Children with Hearing Loss* —Although research has demonstrated that children with hearing loss experience difficulties with speech recognition under noisy conditions, less is known about the listening effort expended and its effects on hearing-related fatigue. The purpose of this study is to investigate whether school-aged children with mild to moderate hearing loss experience greater fatigue and stress caused by listening effort in noisy school classrooms than children without hearing loss. In addition, the

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

researchers will compare children with hearing loss to typically hearing students on cognitive effort used during listening tasks, fatigue due to listening effort on these tasks, and the impact of such listening-related fatigue on basic learning (phonological processing) skills.

Early Intervention and Early Learning in Special Education

Arizona State University

Principal Investigator: Jeanne M. Wilcox

Amount: \$4,197,151

Award Number: R324A110048

Period of Performance: 3/1/11–2/28/15

Description: *Efficacy Trials with a New Early Literacy and Language Curriculum for Preschool Children with Developmental Speech and/or Language Impairment* — Eighty-two percent of children receiving special education services demonstrate a developmental speech and/or language impairment (DSLI) either as a primary diagnosis (i.e., DSLI is the sole impairment) or as a condition secondary to another primary diagnosis (e.g., developmental delay, intellectual disability). Regardless of the underlying diagnosis, children with DSLI often fail to develop crucial pre-literacy skills, such as oral language skills, which can lead to later literacy difficulties and reading failure. The purpose of this study is to assess the efficacy of a preschool oral language and early literacy curriculum package, Teaching Early Literacy and Language Across the Curriculum (TELL), for children with DSLI either as a primary or secondary impairment. TELL targets skills that have been shown to be important in reading decoding and comprehension: phonological awareness, alphabet knowledge, print concepts, writing, vocabulary and sentence length/complexity.

Board of Regents, University of Nevada, Reno

Principal Investigator: Glen Dunlap

Amount: \$2,667,001

Award Number: R324A120097

Period of Performance: 4/1/12–3/31/16

Description: *A Randomized Controlled Trial of Prevent-Teach-Reinforce for Young Children* — Students with serious behavioral challenges may experience a host of negative school and life outcomes if their behavior is not addressed early in life. Compared to students within any category of disability, students with emotional disturbance are at greatest risk for school failure and have the poorest academic records and highest dropout rates. To help improve outcomes for these students, the research team is evaluating the efficacy of a promising intervention to provide young children in preschool settings with the readiness skills they need to succeed in elementary school and beyond. The purpose of this project is to determine whether a manualized intervention model called Prevent-Teach-Reinforce for Young Children is more effective than typical practice in reducing preschoolers' challenging behaviors and increasing their social skills and engagement.

Board of Trustees of the University of Illinois

Principal Investigator: Brent McBride

Amount: \$357,513

Award Number: R324A120174

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Period of Performance: 7/1/12–6/30/14

Description: *Men's Parenting Behaviors in Families of Children with Disabilities: Findings from the ECLS-B* — Although a rapidly growing body of research has documented the impact of father involvement with typically developing children, little is known about how men approach parenting children with disabilities and how their involvement impacts child, mother and family well-being that support child cognitive and socio-emotional development and school readiness. The purpose of the project is to examine the data available in the Early Childhood Longitudinal Study—Birth Cohort (ECLS-B) to investigate the roles fathers play in families of children with disabilities. The project will analyze the ECLS-B to examine the structure, antecedents and consequences of fathers' involvement in families of children with disabilities.

Georgia State University Research Foundation, Inc.

Principal Investigator: Amy Lederberg

Amount: \$1,616,185

Award Number: R324A110101

Period of Performance: 7/1/11–06/30/14

Description: *Foundations for Literacy: An Intervention for Young Children Who Are Deaf and Hard of Hearing* — Historically, poor literacy outcomes have characterized the deaf population. National data suggest that overall literacy rates of deaf high school graduates remain consistently around the fourth-grade level. Although children with less severe hearing loss fare better than children who are deaf, they are still at risk for poorer language and literacy skills than their hearing peers. The purpose of this project is to further develop an early literacy intervention specifically adapted to meet the needs of pre-kindergarteners who are deaf or hard of hearing called Foundations for Literacy.

Lehigh University

Principal Investigator: George DuPaul

Amount: \$1,207,209

Award Number: R324A120284

Period of Performance: 9/1/12-8/31/15

Description: *Early Intervention for Young Children with ADHD: Developing Strategies to Enhance Parent Engagement* — Attention Deficit Hyperactivity Disorder (ADHD) in young children is associated with significant impairment in behavioral, social, and pre-academic functioning. Additionally, ADHD tends to be chronic, with research suggesting that at least 70-80 percent of preschool-aged children with ADHD will continue to exhibit significant ADHD symptoms during elementary school. One promising approach to intervention in the early years is to train parents to help address the issues of young children exhibiting early behavioral symptoms of ADHD. However, two major factors seem to limit the effectiveness of parent education programs: (1) the duration of many of the programs (e.g., 20 sessions) appears to severely limit parent completion; and (2) none of the parent education interventions have specifically targeted the multiple challenges that children with ADHD experience, such as poor parent-child interactions, difficulty with pre-academic skills and a high injury rate. The primary purpose of this project is to further develop and refine a parent education program to increase parent engagement with early intervention for young children with ADHD. A secondary purpose is to develop an alternative format (web-based) of parent education to increase parent accessibility to and engagement with the intervention.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Orelena Hawks Puckett Institute

Principal Investigator: Carl Dunst

Amount: \$474,822

Award Number: R324A110025

Period of Performance: 3/1/11–2/28/13

Description: *Meta-Analytic Structural Equation Modeling of Family Capacity-Building Early Intervention Practices* — A major premise of the Individuals with Disabilities Education Act (IDEA) Part C program is that early intervention builds and strengthens family capacity. In turn, this has positive effects on parent and child outcomes. The aim of this study is to examine this premise by identifying the relationships between certain intervention characteristics and parent and child outcomes. These characteristics include program variables, such as service intensity and frequency of parent contacts, as well as process variables, such as the types of family-centered help provided.

Orelena Hawks Puckett Institute

Principal Investigator: Melinda Raab

Amount: \$1,947,772

Award Number: R324A110183

Period of Performance: 7/1/11–6/30/15

Description: *Relative Effectiveness of Contrasting Approaches to Response-Contingent Learning Interventions* — Young children with profound developmental delays often do not draw associations between their actions and the resulting effects. Young children gain understanding of the relationship between their behavior and its consequences through response-contingent learning opportunities. These learning opportunities involve the use of a targeted behavior to produce interesting social or nonsocial responses. Understanding these associations is a building block for future adaptive behaviors, and it is foundational for further learning. Early intervention service providers typically use strategies that target behaviors a child needs to learn despite their current levels of functioning. The researchers in this study will test the efficacy of an ability-based intervention. Ability-based interventions build upon behaviors that children are already capable of doing but may not use intentionally to affect consequences. The researchers will evaluate whether the ability-based approach to targeting behavior leads to greater improvement in current skills/associations when compared to a needs-based approach commonly used by service providers.

Pennsylvania State University

Principal Investigator: Paul Morgan

Amount: \$699,658

Award Number: R324A120046

Period of Performance: 3/1/12–2/28/14

Description: *Risk Factors and Services for Vocabulary Delays in Early Childhood: Population-based Estimates* — Little is known about early precursors of academic and behavioral school readiness for children, particularly those with or at risk for disabilities. Evidence indicates that vocabulary knowledge constitutes a potentially malleable factor that, if increased, may improve children's reading, mathematics, and behavioral readiness for kindergarten. Yet these relations have not been convincingly established. It is also critical to better understand the onset of vocabulary delays during at-risk children's infant, toddler, and preschool years, and how these delays are affected by the receipt of early intervention services. The primary aim of this study is

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

to determine whether and to what extent vocabulary knowledge, as well as parenting and child care quality and early intervention services, constitute potentially malleable and educationally relevant factors that may increase at-risk children's reading, mathematical and behavioral readiness for schooling. This study will also seek to identify moderators of the relation between earlier vocabulary knowledge and children's school readiness.

Regents of the University of California, Los Angeles

Principal Investigator: Blair Paley

Amount: \$1,497,115

Award Number: R324A120180

Period of Performance: 3/1/12–2/28/15

Description: *Promoting School Readiness in Preschool-Age Children with Fetal Alcohol Spectrum Disorders* — Children with a history of prenatal alcohol exposure or Fetal Alcohol Spectrum Disorders exhibit early signs of developmental delays that are manifested in a host of neurocognitive, behavioral, and social problems throughout life including major obstacles to success in school. These children show deficits in language comprehension, reading, spelling, and math; are at increased risk for learning disabilities and problematic classroom behaviors; and are likely to require special education services. The purpose of the project is to develop an intervention, Strategies to Enhance Early Developmental Success for School Readiness, that can be used with preschools to promote school readiness and positive school outcomes for children with Fetal Alcohol Spectrum Disorders.

Trustees of Indiana University

Principal Investigator: Hannah Schertz

Amount: \$3,499,713

Award Number: R324A120291

Period of Performance: 7/1/12–6/30/16

Description: *Joint Attention Mediated Learning Intervention for Toddlers with Autism Spectrum Disorders and Their Families* — The prevalence of autism spectrum disorders (ASD) has grown dramatically, with advances in early identification resulting in an influx of toddlers to the early intervention system. Although early intervention providers are required to implement evidence-based practices for this population, few models are available that target social communication, the core difficulty in ASD, at the preverbal stage when neurological development is most malleable. This project will directly address this need through an efficacy study of Joint Attention Mediated Learning, an intervention practice for toddlers with ASD that directly targets foundational preverbal social communication competencies from within the parent-child relationship at a critical juncture (by 30 months of age).

University of Chicago

Principal Investigator: Dana Suskind

Amount: \$1,585,613

Award Number: R324A110122

Period of Performance: 3/1/11–2/28/14

Description: *A Parent-Directed Multimedia Early Intervention Tool to Improve Outcomes in Underserved Children who are Deaf or Hard of Hearing* — Hearing loss is the most common birth abnormality, occurring in approximately 1 to 2 newborns per 1,000 births. Medical advances (e.g., cochlear implants, digital hearing aids) have brought auditory access to children

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

with hearing loss, often at an early age. These advances have been associated with significantly improved academic achievement. However, children of low socio-economic status (SES) have continued to demonstrate significantly poorer outcomes, even with auditory access. Evidence suggests that this SES disparity may be due to a lack of critical rehabilitative services, especially in the early intervention (EI) system, including programs to enhance parental skills in supporting their children's listening and language development. To address this need, the research team is developing a provider-guided, parent-directed multimedia intervention called Project ASPIRE (Achieving Superior Parental Involvement for Rehabilitative Excellence). The goal is to develop a standardized EI curriculum for providers to guide parents of children who are deaf or hard-of-hearing in becoming effective collaborators in their children's rehabilitation.

University of Kansas Center for Research, Inc.

Principal Investigator: Jay Buzhardt

Amount: \$2,998,772

Award Number: R324A120365

Period of Performance: 7/1/12-6/30/16

Description: *The Effects of Online Decision Making Support for Home Visitors Using an RTI Approach to Promote the Language Development of At-risk Infants and Toddlers* — Children who lack key early language and literacy experiences prior to kindergarten face significant challenges learning to read. Because of impoverished early language experiences, many children are not adequately prepared to benefit from the reading instruction they receive when they reach school. Home visitation is a viable model for improving the home language experiences that are known to promote children's growth in language and early communication. However, home visitors face challenges in promoting these outcomes including how to identify children who are on a path toward language delay and how to provide the needed supports to parents/caregivers for changing that trajectory. The aim of the project is to test the efficacy of a web-based intervention decision support system for home visitors, MOD: Making Online Decisions. This intervention identifies children at risk for early language delay in a Response to Intervention (RTI) approach and assists home visitors in the design, delivery, and maintenance of a parent-implemented intervention for promoting their child's early language development.

University of Nebraska, Lincoln

Principal Investigator: Susan Sheridan

Amount: \$3,212,919

Award Number: R324A120153

Period of Performance: 7/1/12–6/30/16

Description: *Efficacy of the Getting Ready Intervention at Supporting Parental Engagement and Positive Outcomes for Preschool Children at Educational Risk* — Despite the efforts of early intervention programs to bolster school readiness, some children arrive in kindergarten demonstrating early cognitive, language, or socio-emotional delays that hinder their progress in school. In addition, despite overwhelming evidence of the benefits of planned coordination between home and school, this coordination occurs all too rarely for individual children. This reality, coupled with the unequivocal finding that early relationships matter in a child's developmental trajectory, points to the importance of intervening with at-risk children and families in ways that support learning. The intervention to be tested in this study, Getting Ready, is designed to improve learning experiences and opportunities for preschool children with

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

cognitive, linguistic or socio-emotional delays by strengthening relationships, creating partnerships and promoting continuity in educational experiences across home and school.

University of North Carolina at Chapel Hill

Principal Investigator: Brian Boyd

Amount: \$3,167,682

Award Number: R324A110256

Period of Performance: 7/1/11–6/30/15

Description: *Advancing Social-Communication and Play (ASAP): An Intervention Program for Preschoolers with Autism* — Core diagnostic features of autism include deficits in social-communicative functioning. Two pivotal skills for young children with autism include joint attention and pretend play, which constitute early foundations upon which later social-communicative skills are built. Joint attention (characterized by behaviors such as pointing, showing, and coordinated looking to share attention toward objects or events with another person) and symbolic play (characterized by the ability to pretend) play important roles in language development and social engagement with peers. Children with autism show deficits in these skills. Advancing Social-Communication and Play (ASAP) is an intervention that has been developed recently to help preschool children with autism learn and practice these important skills. The purpose of this research is to conduct a cluster randomized trial to evaluate the efficacy of ASAP. The major goals of the project include investigating whether children who experience the intervention, when compared to those who do not, demonstrate greater gains in the proximal child outcomes of social-communication and play skills, as well as the more distal outcomes of language development and engagement with classroom objects and peers.

University of North Carolina at Chapel Hill

Principal Investigator: Virginia Buysse

Amount: \$1,500,000

Award Number: R324A120059

Period of Performance: 3/1/12–2/28/15

Description: *Recognition and Response: Addressing Early Learning Difficulties in Math through an RTI Model for Pre-K* — Historically, little attention has been paid to teaching math prior to kindergarten entry. The National Research Council's Committee on Early Childhood Mathematics concluded that while virtually all young children have the capability to learn and acquire core competencies in math, most do not realize their full potential. The Committee attributed this to children's limited opportunities to learn math in either early childhood education programs or through every day experiences at home. This lack of instructional opportunities could be particularly problematic for children most at risk for math failure. These children start school behind their peers and may be unable to catch up without extensive, high-quality early math instruction. The purpose of this project is to adapt an instructional system, called Recognition and Response, for preschool mathematics instruction.

University of North Carolina at Chapel Hill

Principal Investigator: Michael Willoughby

Amount: \$1,628,302

Award Number: R324A120033

Period of Performance: 3/1/12–2/28/16

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Description: *Development of a Computerized Assessment of Executive Function for Preschool-Aged Children* — Executive function (EF) is an umbrella term that refers to a wide range of cognitive abilities that together serve as a supervisory system important for planning, reasoning ability, and integration of thought and action. EF plays a central role in children's development of self-regulation and social and cognitive competence. Evidence suggests that EF deficits may act as a "final common pathway" through which diverse disorders and risk factors affecting young children lead to learning difficulties and early school failure. As such, it is essential that psychometrically sound longitudinal measures of EF be developed to identify EF deficits in diverse groups of children and to determine the efficacy of various attempts at remediating these deficits and promoting school achievement. The aim of this study is to further develop and validate a computerized assessment to identify EF deficits in preschoolers and determine the efficacy of interventions aimed at remediating EF deficits.

University of Oklahoma Health Sciences Center

Principal Investigator: Bonnie McBride

Amount: \$2,887,900

Award Number: R324A110353

Period of Performance: 7/1/11–6/30/15

Description: *Evaluation of a Comprehensive Community-based Intervention for Toddlers with ASD* — Prevalence rates for autism spectrum disorders (ASD) have risen dramatically in recent years, and children are being identified earlier (i.e., under the age of 3). This has placed pressure on state early intervention systems to serve young children with ASD. However, there are few treatment models available that are both feasible across different types of community settings and have demonstrated effectiveness. The overarching purpose of this project is to conduct a randomized trial to evaluate the efficacy of a previously developed and pilot-tested model for very young children with ASD called Project DATA (Developmentally Appropriate Treatment for Autism)–Toddler. The major goals are to examine whether children receiving this intervention show greater gains in cognitive functioning, language, social relatedness and adaptive behavior; whether parents of these children demonstrate gains in recommended parenting strategies and decreased stress; and whether the intervention is acceptable in terms of general satisfaction and ability to work effectively within the context of different cultures. The ultimate aim of the research is to enable feasible and beneficial community-based services for toddlers with ASD.

University of Texas Health Science Center at Houston

Principal Investigator: Marcia Barnes

Amount: \$4,081,051

Award Number: R324A110270

Period of Performance: 9/1/11– 8/31/15

Description: *A Randomized Trial of a Tutor-Based Mathematics and Attention Intervention for Low-Performing Pre-Schoolers at Risk for Mathematical Difficulties in School* — Mathematical knowledge at school entry is an important predictor of later academic achievement. Children who are especially low performing on measures of mathematical knowledge at the beginning of preschool often show less growth in mathematical knowledge over the preschool year, remain well below school readiness benchmarks for mathematics, and continue to struggle in mathematics in later grades despite receiving high-quality classroom instruction. These students require more intensive interventions focused on mathematics instruction at an early age. The

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

purpose of this project is to assess the efficacy of a preschool program, Pre-K Mathematics Tutorial, and the combination of this program with attention training for improving the mathematical knowledge of preschool children who are especially low performing in mathematics.

University of Texas Health Science Center at Houston

Principal Investigator: Cathy Guttentag

Amount: \$1,370,738

Award Number: R324A110104

Period of Performance: 6/1/11–5/31/14

Description: *Development of an Empirically Based Intervention for Childcare Teachers to Promote Language Skills in At-Risk Toddlers* — Strong oral language skills can lay the foundation for later school achievement. Children who have delayed oral language skills by age 3 are less able than their typically developing peers to take advantage of preschool readiness curricula and are at risk for later learning difficulties in reading and math. Typical language interactions between teachers and students in early learning environments may not be of adequate quality for reducing language or academic difficulties. The purpose of this project is to develop and document the feasibility and promise of a professional development intervention called Toddler Language in the Classroom, which is designed to improve language skills of toddlers who exhibit or are at risk for language delays. The program is intended to increase the quality of language and literacy experiences in the childcare setting by training teachers to respond to children's communicative signals, exposing children to rich language and encouraging children to talk.

University of Texas Health Science Center at Houston

Principal Investigator: Susan H. Landry

Amount: \$3,035,724

Award Number: R324A110079

Period of Performance: 3/1/11–2/28/15

Description: *Testing an Integrated Preschool Curriculum for English Language Learners* — The number of English language learners (ELL) and the number of children classified as limited-English proficient has grown considerably in recent years. Many of these children are at risk for developing disabilities and special education referrals. Yet there is a lack of empirically validated instructional approaches and effective tools for helping teachers deliver individualized instruction to this population. This study is evaluating the use of a Spanish adaptation of Literacy Express, a comprehensive, small-group focused, school readiness curriculum for improving literacy, language, and math in ways that also support social skills for at-risk preschool children.

University of Texas Health Science Center at Houston

Principal Investigator: Heather Taylor

Amount: \$2,649,290

Award Number: R324A120363

Period of Performance: 9/1/12–8/31/16

Description: *Enhancing Early Learning for Infants with Disabilities: A Responsive Parenting Intervention* — Children with physical disabilities associated with spina bifida and cerebral palsy face multiple challenges due to early physical and cognitive difficulties that impact their learning and later academic performance and independence. Parents of these children have the greatest

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

potential for influencing their development due to the number of opportunities they have to interact with their children. However, the field of early intervention often fails to engage parents as active and primary mediators of the developmental services their children receive. This study will investigate whether an integrated parent responsiveness and motor support intervention that targets the specific motor, attention and organization deficits among infants with physical disabilities results in greater improvements in core skills (attention, motor learning, contingency learning and goal directed play) and outcomes (cognition, language, social and emotional competence and motor performance) compared to an intervention that focuses on responsiveness only and a control group receiving developmental information.

Vanderbilt University

Principal Investigator: Mary Louise Hemmeter

Amount: \$3,499,978

Award Number: R324A120178

Period of Performance: 3/1/12–2/29/16

Description: *Examining the Efficacy of a Classroom-Wide Model for Promoting Social Emotional Development and Addressing Challenging Behavior in Preschool Children with or at-risk for Disabilities* — Researchers have noted that children are entering elementary school without the behavior skills that are necessary for success. Social and behavior challenges that are not resolved during early childhood may lead to problems with socialization, school adjustment, and educational success in later grades. Intervention in preschool may help ameliorate the social, emotional, and behavioral challenges that preschoolers can display. The research team will conduct a randomized controlled trial to evaluate whether a comprehensive, classroom-wide preschool intervention system called Teaching Pyramid promotes social skills, reduces challenging behavior, and enhances the school readiness of young children with and without disabilities.

Mathematics and Science Education

Educational Testing Service

Principal Investigator: Lois Frankel

Award Amount: \$1,498,052

Award Number: R324A110355

Period of Performance: 7/1/11–6/30/14

Description: *Expanding Audio Access to Mathematics Expressions by Students with Visual Impairments via MathML* — Mathematical expressions are used in instructional materials, test-preparation materials, and educational assessments. These expressions pose an accessibility challenge for students with visual impairments because the information is difficult to convey using available technologies such as recorded or human-read audio. Existing assistive technology (AT) that provides synthetic speech for electronic text does not improve the accessibility situation for math because the technology generally does not "know" how to describe mathematical expressions. The goal of this project is to enable math expressions to be presented usefully through AT so that teachers and others can provide students with visual impairments timely access to classroom materials, tests and test-preparation materials in a format that can improve comprehension. The researchers will develop ClearSpeak, an accessible mathematical

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

markup language (MathML) that can be integrated with existing screen reader software currently being used by individuals with visual impairments.

Iowa State University

Principal Investigator: Anne Foegen

Amount: \$1,511,427

Award Number: R324A110262

Period of Performance: 7/1/11– 6/30/15

Description: *Algebra Screening and Progress Monitoring* — Proficiency in algebra is a critical building block for postsecondary education and higher wage jobs, as well as the nation's competitiveness in science, technology, engineering and mathematics. Algebra competence is a particular concern for secondary students with disabilities, who are participating in general education mathematics courses in growing numbers and facing curriculum standards and graduation requirements that demand mastery of algebra. Empirical evidence suggests positive effects on elementary students' achievement in reading and mathematics when teachers use frequent progress monitoring to inform instruction. Comparable monitoring measures for advanced mathematics topics are not widely available. The purpose of this project is to develop a series of algebra screening and progress monitoring measures intended to enable teachers of students with disabilities to better monitor students' learning in algebra.

Temple University of the Commonwealth System of Higher Education

Principal Investigator: Joseph Boyle

Amount: \$906,430

Award Number: R324A120409

Period of Performance: 4/1/11–3/31/14

Description: *Improving the Science Performance of Students with Learning Disabilities Through Strategic Note-taking* — Secondary students with disabilities continue to receive science instruction in mainstream settings where the predominant mode of instruction involves students listening and taking notes. Despite increases in the number of students being included in regular education classes, most students with disabilities have difficulty in content areas such as science. Students with disabilities often lack the necessary note-taking skills (e.g., they typically record fewer total notes and fewer important lecture points) required to learn important science concepts. The purpose of this project is to develop an intervention aimed at improving students' note-taking skills and retention of science content.

University of Miami

Principal Investigator: Jennifer Krawec

Award Amount: \$1,616,879

Award Number: R324A110009

Period of Performance: 3/1/11–2/28/14

Description: *Solve It!—Grades 5–6: Improving Math Problem Solving for Students with Learning* — Students with disabilities perform significantly lower in mathematics than their peers without disabilities. Math problem solving is particularly challenging for students with disabilities as instruction generally does not provide the kind of modeling and skill building necessary to become an efficient math problem solver. The purpose of this project is to modify Solve It!, a mathematics problem-solving intervention for students with learning disabilities.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Solve It! intends to teach students how to think and behave like successful problem solvers by developing strategies used by effective problem solvers.

University of Oregon

Principal Investigator: Scott Baker

Amount: \$1,499,966

Award Number: R324A120115

Period of Performance: 6/1/12–5/31/15

Description: *Promoting Algebra Readiness: Developing a Strategic Intervention on Rational Number Concepts (Project PAR)* — Algebra competence is of particular concern for secondary students with disabilities who are participating in general education mathematics courses in growing numbers and facing curriculum standards and graduation requirements that demand mastery of algebra. The purpose of the project is to develop the curriculum Promoting Algebra Readiness (PAR) for sixth-grade students with or at risk for learning disabilities in mathematics. Researchers will design PAR to include instructional features appropriate for this population, including optimal sequencing of lessons, pre-teaching prerequisite knowledge, and providing opportunities for practice. There are two major aims of the project: (1) to develop a 100-lesson algebra readiness intervention focusing on conceptual understanding and procedural fluency with rational numbers and equivalent representations for students at risk for math learning difficulties and disabilities, and (2) to assess the feasibility and the promise of intervention effectiveness.

University of Oregon

Principal Investigator: Mari Strand Cary

Award Amount: \$1,784,094

Award Number: R324A110286

Project Period: 6/1/11–5/31/14

Description: *KinderTEK: Teaching Early Knowledge of Whole Number Concepts Through Technology* — Significant differences in student knowledge can be reliably measured at school entry on concepts from counting and number knowledge to more complex understandings of quantities, operations and problem solving. Longitudinal research suggests that students who perform poorly at the end of kindergarten are likely to continue to perform poorly in mathematics through the later elementary grades. Recognizing that mathematics trajectories are established early in school, the researchers will develop an iPad-based mathematics intervention for at-risk kindergarten students. The KinderTEK intervention, designed for use in schools that use a multi-tiered model of service delivery, will be based on promising instructional design principles for students with disabilities. KinderTEK will focus on building conceptual understanding and procedural fluency with whole number concepts.

University of Oregon

Principal Investigator: Ben Clarke

Amount: \$3,338,552

Award Number: R324A120304

Period of Performance: 7/1/12–6/30/16

Description: *A Randomized Control Trial of a Tier 2 Kindergarten Mathematics Intervention* — Students in the United States have demonstrated low levels of mathematics performance compared to national standards and the performance of students from other countries. Signs of potential low performance and risk for mathematics disabilities can appear early in students'

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

schooling. Without intervention in early elementary school, these difficulties are likely to persist over time and become more challenging to remediate. One approach to improving mathematics achievement is to deliver effective instructional programs to students at risk for mathematics disabilities as they enter kindergarten. Few experimental studies exist for evaluating the efficacy of mathematics programs used in kindergarten classrooms for students at risk for mathematics disabilities or future poor performance in mathematics. The purpose of the project is to test the efficacy of a fully developed mathematics intervention for kindergarteners, called ROOTS, aimed at improving the mathematics skills of students with or at risk for mathematics disabilities.

University of Texas, Austin

Principal Investigator: Diane Bryant

Amount: \$1,436,410

Award Number: R324A120364

Period of Performance: 7/1/12-6/30/15

Description: *Project AIM: Algebra-readiness Intervention Modules for At-Risk Students* — Success in algebra courses has been linked to greater success at the secondary and postsecondary levels and higher wage jobs. Algebra competence, however, is a particular concern for students with or at risk for mathematics disabilities. These students are participating in general education mathematics courses in growing numbers and facing curriculum standards and graduation requirements that demand mastery of algebra. These students continue to demonstrate poor mathematics achievement that is persistent and pervasive and lack the foundational mathematics skills critical to succeeding in algebra courses. The purpose of this project is to develop two sets of instructional modules, Algebra-readiness Intervention Modules, focusing on mathematics concepts and skills that are important for success in algebra.

Professional Development for Teachers and Related Services Providers

Board of Regents, University of Nebraska, University of Nebraska-Lincoln

Principal Investigator: Elizabeth Doll

Award Amount: \$1,496,461

Award Number: R324A110131

Period of Performance: 6/1/11–5/31/14

Description: *Using Data to Foster the School Success of Students with Disabilities* — Increasingly, special educators are expected to use data in their day-to-day deliberations in support of students. However, teachers often report that they are unprepared to choose and apply reliable strategies for data collection and make good use of data in their deliberations about how to best support student learning. In addition, special education teams in rural areas are often working in isolation and do not have meaningful opportunities to share best practices. The purpose of this project is to develop and examine the feasibility of NU Data, a professional development intervention aimed at preparing special education teams to use data-based decisionmaking to improve academic outcomes for students with disabilities. The intervention will involve distance education that combines technology with teaming and coaching. The goal is to improve professional growth while minimizing scheduling and travel constraints. The project will utilize an iterative curriculum development process aimed at improving the feasibility, usability and potential impact of the NU Data intervention.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Ohio University

Principal Investigator: Julie Owens

Amount: \$1,500,000

Award Number: R324A120272

Period of Performance: 7/1/12-6/30/15

Description: *Development Strategies to Increase Teacher Integrity in a Daily Report Card Intervention for Children with or at-risk for ADHD* — Research has shown that teacher-implemented interventions for students with Attention Deficit Hyperactivity Disorder (ADHD) have positive effects. However, given the many demands that teachers face, the extent to which teachers implement these interventions as recommended (i.e., with integrity) is variable and often declines in the absence of ongoing consultation with another professional. Limited use of these interventions is a significant problem and can compromise student outcomes. The goal of the study is to develop a multi-component consultation intervention that addresses the factors that facilitate high integrity (e.g., knowledge, skills, beliefs) to a daily report card intervention, as well as tools for measuring these facilitators and intervention integrity (both adherence and competence).

University of Kentucky

Principal Investigator: Susan Effgen

Amount: \$851,822

Award Number: R324A110204

Period of Performance: 7/1/11–6/30/14

Description: *Relationship of Student Outcomes to Physical Therapy School Services* — The ultimate goal of school-based physical therapy services is to enhance students' successful participation in typical school and community activities leading to further education, employment, and independence. The purpose of this large-scale, multi-site observational study is to describe the outcomes that students achieve when receiving physical therapy within schools and the relationship of the physical therapy intervention to those outcomes. The research aims to describe the changes in students' participation in school activity, self-care, posture and mobility, and recreation and fitness outcomes and the associations between these changes and identified characteristics of school-based physical therapy intervention, including service delivery models, activities, procedures, and dosage.

University of Oregon

Principal Investigator: Deanne Unruh

Award Amount: \$1,500,000

Award Number: R324A120277

Period of Performance: 9/1/12-8/31/15

Description: *State Toolkit for Examining Post-School Success (STEPSS) Professional Development (PD) Project* — State and national data show that youth with disabilities are less likely to attend postsecondary education or be employed than their peers without disabilities. As part of their federal reporting requirements, state education agencies collect transition-related student data that can be used to improve youth outcomes by targeting areas of need and identifying appropriate evidence-based practices. However, there is no standard practice for using these data. The purpose of this study is to develop and test a professional development intervention, State Toolkit for Examining Post-School Success (STEPSS) Professional Development (PD) Project, that trains district data teams to use data-based decisionmaking to

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

develop, implement, and evaluate action plans that use evidence-based practices and predictors of post-school success to improve students' secondary transition skills.

Reading, Writing, and Language Development

Columbia University, Teachers College

Principal Investigator: Joanna Williams

Amount: \$1,011,117

Award Number: R324A110095

Period of Performance: 5/1/11–8/31/13

Description: *An Intervention to Improve the Comprehension of Primary-grade At-risk Students by Providing Text Structure Instruction Embedded in Social Studies Content* — Students with reading disabilities may demonstrate comprehension problems for a number of reasons, including a lack of skill in relevant cognitive strategies such as the use of text structure. Readers without knowledge of text structure often do not approach text with any plan of action. Research suggests that identifying and using text structure can be an important tool for organizing reading and writing. The purpose of this project is to complete the development of a class-wide intervention that is embedded in social studies content and focused on teaching expository text structures to improve reading comprehension.

Lehigh University

Principal Investigator: Mary Beth Calhoon

Amount: \$3,485,216

Award Number: R324A120123

Period of Performance: 3/1/12–2/29/16

Description: *Reading Achievement Multi-component Program (RAMP-UP)* — Many adolescents with reading disabilities read 4 to 6 years below grade level, score poorly on reading assessments and show severe deficits in word recognition, reading fluency, and comprehension. Questions exist regarding the most effective way to provide remedial reading instruction for adolescents. Some researchers advocate for an instructional emphasis on phonological decoding, while others promote an emphasis on comprehension. This research team is conducting a randomized controlled trial designed to address these questions and explore the most effective and efficient means to develop reading skills of middle school students with reading disabilities. The team will examine the efficacy of two versions of a fully developed and empirically supported peer-mediated, multi-component remedial reading program that is designed specifically for adolescents with reading disabilities. Both versions address deficits in phonological decoding, spelling, fluency and comprehension skills but vary the amount of time devoted to decoding and comprehension instruction.

Ohio State University

Principal Investigator: Gwendolyn Cartledge

Amount: \$1,394,851

Award Number: R324A120103

Period of Performance: 7/1/12–6/30/15

Description: *Reducing Special Education/Reading Risk for Urban Learners through An Oral Reading Fluency Intervention* — According to the 2009 National Assessment of Educational Progress fourth-grade reading results, a large gap exists between reading performance of urban

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

students with disabilities and their national counterparts. In many urban settings, the large teacher-student ratios may increase the likelihood that students with the poorest reading skills will not get the needed instruction to become proficient readers. The research team is proposing to develop a computer-based intervention specifically designed for students with disabilities in urban areas. The intervention will provide individualized instruction, delivered through voice-activated computer software and designed for guiding students through reading passages, modeling and correcting oral reading as needed. The intervention is designed to increase the students' oral reading fluency, and it will include culturally relevant passages that reflect the interests and backgrounds of students from urban settings.

Regents of the University of California

Principal Investigator: Rollanda O'Connor

Amount: \$1,375,333

Award Number: R324A120173

Period of Performance: 6/1/12–5/31/15

Description: *BRIDGES: Teaching Reading Through U.S. History* — Finding time to provide intensive reading instruction for students with disabilities and poor readers is more difficult in secondary schools than in elementary schools. Reading instruction in middle school is often eliminated in favor of tutoring support for passing courses. Educators can be faced with weighing the importance of content acquisition over reading skills for improving academic outcomes for these struggling students. This project will develop an intervention to address this dilemma. The intervention will focus on teaching focused reading skills well and applying them directly to reading in the content area of U.S. History.

Research Foundation of SUNY

Principal Investigator: Lynn Gelzheiser

Amount: \$3,138,200

Award Number: R324A110053

Period of Performance: 7/1/11–6/30/15

Description: *Efficacy of the Interactive Strategies Approach-Extended as a Small Group Intervention for Intermediate Grade Struggling Readers* — Instructional approaches for improving reading and writing skills of older students may address deficits in knowledge, vocabulary, comprehension, and basic reading skills. Often the approaches feature a standard treatment that does not differentiate instruction based on individual student needs. The research team proposes to investigate the efficacy of the Interactive Strategies Approach-Extended with third- and fourth-graders who have disabilities or are struggling readers. The intervention is a set of instructional goals, approaches and materials that supplement classroom reading instruction and can be tailored to the reading and writing needs of individual students.

University of Connecticut

Principal Investigator: Michael Coyne

Amount: \$4,097,835

Award Number: R324A110135

Period of Performance: 4/1/11–3/31/15

Description: *Project Early Vocabulary Intervention* — Early vocabulary development has long been recognized as being important to future reading success. Although there is some research on direct vocabulary instruction in early grades, there are few investigations of its effects on

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

students identified as at risk for disabilities. The purpose of this project is to assess the efficacy of Early Vocabulary Intervention with kindergartners most at risk for language and learning disabilities. The intervention is designed to supplement classroom vocabulary instruction and is intended to accelerate students' vocabulary and listening comprehension skills.

University of Pittsburgh

Principal Investigator: Christopher Lemons

Amount: \$1,445,011

Award Number: R324A110162

Period of Performance: 7/1/11–6/30/13

Description: *Enhancing Reading Instruction for Children with Down Syndrome: A Behavioral Phenotypic Approach* — Current methods of reading instruction have not been highly effective for children with Down syndrome. The purpose of this project is to improve reading outcomes for these children by developing an intervention that incorporates critical components of early reading (e.g., vocabulary, decoding skills, fluency) that have been adapted and modified to support the challenges with working and short-term memory, expressive language and motivation often exhibited by children with Down syndrome. Researchers will use five phases of development, implementation and revision to design the intervention and evaluate its promise.

University of Tennessee

Principal Investigator: Kimberly Wolbers

Amount: \$1,156,576

Award Number: R324A120085

Period of Performance: 8/1/12–7/30/15

Description: *Development of Strategic and Interactive Writing Instruction (SIWI) for Deaf and Hard of Hearing Students* — Students who are deaf or hard of hearing have demonstrated little progress in literacy over the years. It is common for students who are deaf or hard of hearing to graduate high school writing and reading at an elementary level. Deaf or hard of hearing students may exhibit substantial difficulties with sentence-level writing skills, and their writing can have fewer words, more incomplete sentences, frequently omitted function words and less complex structures compared to the writing of peers who are not deaf. In addition, these students may lack discourse-level skills to develop coherence in writing, incorporate text structure elements and write in a planned and organized manner. The purpose of this project is to adapt an intervention, Strategic and Interactive Writing Instruction, which has shown promise for improving writing outcomes for deaf students in middle school for use with deaf students in grades 3-5.

Social and Behavioral Outcomes to Support Learning

Florida International University

Principal Investigator: Paulo Graziano

Amount: \$1,497,831

Award Number: R324A120136

Period of Performance: 7/1/12–6/30/15

Description: *Development of a Kindergarten Transitional Program for Preschool Students Identified as Being at High Risk for Behavioral Disorders* — Research has highlighted the strong association between school readiness and successful school outcomes for children who are at risk

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

for behavioral disorders. Children's early externalizing behavior problems, including aggression, defiance, inattention, hyperactivity and impulsivity, have significant implications for children's school readiness and subsequent transitions into the early school years. In addition, children's self-regulation skills (ability to control behavior, attention and emotions for the purpose of learning) upon entrance to kindergarten are strongly related to later school success across academic and social domains. Research has shown that a significant portion of preschoolers do not possess adequate self-regulation skills necessary for a successful transition to kindergarten. Intervening prior to the start of kindergarten is particularly important given that these behavioral problems are moderately stable and predictive of later academic deficits and more serious kinds of externalizing and internalizing disorders in later childhood and adolescence. The research team will develop and evaluate the promise of a kindergarten transitional program, implemented beginning in the summer before the start of kindergarten, aimed at facilitating the transition of preschoolers with at-risk behavior problems into the kindergarten setting.

Florida International University

Principal Investigator: William Pelham

Amount: \$3,478,637

Award Number: R324A120169

Period of Performance: 3/1/12–2/29/16

Description: *A Summer Preparatory Program for Middle and High School Students with ADHD* — Adolescents with Attention Deficit Hyperactivity Disorder (ADHD) are at high risk for academic failure and school dropout. Middle and high school students with ADHD experience substantially more academic impairment than their peers, with an estimated one-third of students with ADHD ultimately dropping out of high school. Research has shown that students with ADHD have difficulty transitioning to less structured academic environments (e.g., the transition from elementary school to middle school and the transition from middle to high school). The middle and high school environments require increased student self-reliance, where students are required to keep track of their own schedules and school materials, turn in assignments with minimal prompts, remember page numbers and worksheets that are given across the day by multiple teachers and plan for long-term projects. These environments are challenging for adolescents with ADHD. To address these challenges, summer intervention programs in which at-risk students are identified and recruited into summer programs that offer academic instruction, social support, and school orientation activities have been implemented with success for children. However, relatively few such programs are available for adolescents. The research team will evaluate the efficacy of the Summer Preparatory Program (SPP) intervention, a program that teaches academic skills and skills to improve psychosocial functioning, for adolescents with ADHD. The SPP has demonstrated feasibility of implementation as well as promise for improving student outcomes.

IRIS Media, Inc.

Principal Investigator: Brion Marquez

Amount: \$1,484,881

Award Number: R324A110074

Period of Performance: 3/1/11–2/28/14

Description: *Student Self-Management System (SSMS): Reducing Problem Behavior in Upper Elementary Classrooms by Transferring Externally Applied Teacher Controls to Internally Applied Student Controls* — Students in upper elementary school face increasing school

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

demands and expectations for self-monitoring their behavior and learning. A significant proportion of student misbehavior can be attributed to poor self-management skills and lack of impulse control. Despite evidence for the potential of student self-management interventions to reduce problem behaviors, research on self-management programs has yet to be translated into effective, practical tools for widespread implementation at the classroom level. The research team will develop and pilot test a self-management intervention, Student Self-Management System (SSMS), for students with or at risk for disabilities who exhibit problem behavior in the classroom in grades 3-6.

Johns Hopkins University

Principal Investigator: Catherine Bradshaw

Amount: \$1,676,576

Award Number: R324A110107

Period of Performance: 5/1/11–4/30/14

Description: *Double Check: A Cultural Proficiency and Student Engagement Model* — Research consistently finds that minority students are overrepresented in special education, disciplinary referrals, and behavioral suspensions. There is a need to address cultural factors as possible antecedents of problem behaviors. The research team will develop and pilot test Double Check, an intervention to reduce the overrepresentation of minority students in special education and disciplinary actions. Double Check is a model aimed at promoting cultural proficiency and student engagement. The intervention includes data-based decisionmaking and professional development at the school level and coaching for classroom teachers. It focuses on the use of culturally responsive teaching, classroom management, and student engagement strategies.

Johns Hopkins University

Principal Investigator: Golda Ginsburg

Amount: \$3,255,147

Award Number: R324A120405

Period of Performance: 7/1/12–6/30/16

Description: *A Modular CBT for Reducing Anxiety and Improving Educational Outcomes* — Anxiety disorders are the most common childhood psychiatric conditions and are known to severely impair children's academic, social, and behavioral functioning in school. Approximately 11-15 percent of youth receiving special education services (generally under the category of emotional disturbance) and 10-20 percent of youth at risk for special education have excessive anxiety requiring treatment. Despite the growing efficacy of cognitive-behavioral treatment for anxiety, the intervention is not widely used in schools. The primary purpose of this research is to evaluate the efficacy of a modular cognitive-behavioral intervention (M-CBT), compared to usual care, on reducing excessive anxiety and improving student academic, social, and behavioral performance in school.

Oregon Social Learning Center

Principal Investigator: Rohanna Buchanan

Amount: \$1,270,780

Award Number: R324A110370

Period of Performance: 5/1/11–4/30/14

Description: *Students, Parents, and Teachers on Track: Intervention Development for Youth with Emotional Disturbance* — Students with emotional disturbance (ED) are often removed

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

from their mainstream educational settings and placed in highly structured treatment settings (e.g., alternative schools) where they receive intensive services. When students return to their general education home school, those services and supports abruptly stop, leading to difficult transitions for students and increased likelihood of poor educational outcomes (e.g., dropout). The purpose of this project is to develop and pilot test an intervention, On Track, for middle school students with ED that is intended to promote successful student transitions from a treatment setting to neighborhood middle schools.

Pennsylvania State University

Principal Investigator: Paul Morgan

Amount: \$694,704

Award Number: R324A120331

Period of Performance: 7/1/12-6/30/14

Description: *ADHD: Population-Based Estimates of Diagnosis, Treatments, and School Outcomes* — Attention Deficit Hyperactivity Disorder (ADHD) is the most commonly diagnosed mental health disorder in school-aged children. The purpose of this study is to use data from the Early Childhood Longitudinal Study-Kindergarten Cohort (ECLS-K) to examine the following research questions: (1) What are the age- and grade-specific patterns of ADHD diagnosis among U.S. students in grades 1-8? (2) Which population subgroups of students are more and less likely to receive a diagnosis and to experience different patterns of ADHD over time? (3) Among students diagnosed with ADHD, which are more and less likely to receive treatment for this condition? and (4) Is medication, special education and related services, grade retention, therapy or combinations of these treatments effective in increasing behavioral, socio-emotional, and academic functioning of students diagnosed with ADHD and which treatments are most effective for which students?

SRI International

Principal Investigator: William Carl Sumi

Amount: \$3,475,570

Award Number: R324A110166

Period of Performance: 9/1/11–8/31/15

Description: *Efficacy Study of Check and Connect to Improve Student Outcomes* — There is a need to more effectively intervene with youth with emotional and behavioral disorders to change their patterns of negative behavioral and academic experiences in high school. Importantly, there is a need to engage these students in school programs so they persist through graduation and are well prepared for success in their adult lives. The research team will conduct a randomized controlled trial to test the efficacy of the Check and Connect intervention, a promising, comprehensive student engagement intervention developed to promote school success and completion for secondary students at high risk for school failure and dropout.

SRI International

Principal Investigator: William Carl Sumi

Amount: \$3,383,527

Award Number: R324A110027

Period of Performance: 6/1/11–5/31/15

Description: *Students Exposed to Trauma: An Efficacy Study of the Cognitive Behavioral Intervention for Trauma in Schools* — There is a need for school-based interventions to ameliorate the behavioral and academic challenges of the growing number of students who

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

experience acute or chronic trauma. However, rigorous evidence supporting the use of trauma-focused interventions in schools is scarce and does not always include student outcomes that may be of interest for school personnel (e.g., teacher ratings of student behavior, academic outcomes). The research team will conduct a randomized controlled trial to test the efficacy of the Cognitive Behavioral Intervention for Trauma in Schools (CBITS) program on student behavioral and academic outcomes. The intervention is a promising school-based, structured, symptom-focused therapy program to improve behavioral outcomes (e.g., depression, symptoms of post-traumatic stress disorder) for at-risk middle school students who have experienced a broad range of exposure to violence and trauma.

University of California, San Francisco

Principal Investigator: Linda Pfiffner

Amount: \$3,386,497

Award Number: R324A120358

Period of Performance: 7/1/12-6/30/16

Description: *Efficacy of the Collaborative Life Skills Program* — It is estimated that 3-7 percent of students in the elementary grades meet criteria for a diagnosis of Attention Deficit Hyperactivity Disorder (ADHD), but there is a lack of effective, potent, and sustainable school-based interventions to mitigate ADHD and to support optimal learning and social outcomes. To address this need, the research team developed the Collaborative Life Skills Program (CLS) through funding from the Institute of Education Sciences. CLS is a collaborative school-home behavioral intervention for ADHD consisting of an integrated delivery of child social and life skills training, parent training and teacher consultation. CLS has demonstrated feasibility of implementation in elementary schools as well as promise for preventing and ameliorating problem behaviors in children with or at risk for ADHD, but the efficacy of the intervention has not yet been tested. The purpose of this study is to conduct a randomized efficacy trial to evaluate the effects of CLS on behavioral and academic outcomes for students with symptoms of ADHD.

University of Connecticut

Principal Investigator: Sandra Chafouleas

Amount: \$2,332,829

Award Number: R324A110017

Period of Performance: 7/1/11–6/30/15

Description: *Project VIABLE-II: Unified Validation of Direct Behavior Rating (DBR) in a Problem-solving Model* — Despite increased emphasis on prevention and early intervention for improving students' social, emotional, and behavioral skills, there is a substantial gap in the availability of behavioral assessments to identify students in need of additional support (screening) and monitor response (progress monitoring). Previous work by this research team led to the development of Direct Behavior Rating (DBR) scales as an assessment method that combines the strengths of systematic direct observation and behavior ratings scales. Recommended instrumentation and procedures, as well as the psychometric adequacy related to DBR scales' use for assessing academic engagement, respectful, and disruptive behavior were reported. Through this work, the need for a unified screening and progress monitoring tool emerged, and the research team will now extend this systematic line of research to evaluate DBR scales for use in supporting problem-solving models of service delivery for both screening and progress monitoring.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

University of Florida

Principal Investigator: Maureen Conroy

Amount: \$4,134,515

Award Number: R324A110173

Period of Performance: 8/15/11–8/14/15

Description: *Efficacy of the BEST in CLASS Intervention for Young Children at High Risk for Emotional and Behavioral Disorders* — Data indicate that approximately 12–25 percent of young children display chronic problem behaviors that impact their current and future performance in school. There is a need to intervene early with young children before the severity and intensity of their problems increase. BEST in CLASS was developed with funding from the Institute of Education Sciences as a secondary level intervention for teachers in early childhood classrooms. The focus of the intervention is on improving student social, emotional, and behavioral functioning, and concomitantly, the pre-academic competence of 4-year-olds at high risk for the development of emotional and behavioral disorders. BEST in CLASS has demonstrated feasibility of implementation by early childhood educators as well as promise for preventing and ameliorating problem behaviors demonstrated by high-risk children in early childhood settings. The research team will evaluate the efficacy of BEST in CLASS.

University of Florida

Principal Investigator: Stephen Smith

Amount: \$1,487,494

Award Number: R324A110182

Period of Performance: 5/15/11–8/14/14

Description: *Development of I Control: An Executive Function Based Intervention to Foster Self-Regulation and Improve Social/emotional Outcomes for Middle School Students with Emotional and Behavioral Disorders* — Students who exhibit significant and chronic behavioral problems and are consequently placed in special education programs for students with emotional and behavioral disorders are typically the most difficult to teach and manage in the classroom setting. Behavior management strategies, such as contingent reinforcement and behavior reduction procedures, are common classroom practices to address student behavior. However, these practices do not adequately address student self-regulatory skills, which have been shown to play an important role in social-emotional functioning. The research team will develop and pilot test I Control, an intervention for middle school students with emotional and behavioral disorders that targets self-regulatory mechanisms collectively known as executive functioning skills (e.g., inhibition of impulses, maintaining information in working memory). These self-regulatory skills are important for goal setting, regulating emotions, and problem solving, which in turn contribute to students' social competence.

University of Kansas Center for Research, Inc.

Principal Investigator: Howard Wills

Amount: \$2,916,059

Award Number: R324A120344

Period of Performance: 7/1/12–6/30/16

Description: *A Multi-Site Efficacy Trial of the Class-wide Function-related Intervention Teams "CW-FIT": A Research to Practice Agency for Students With and At Risk for EBD* — Research suggests that 3–6 percent of school-age children have emotional and behavioral disorders (EBD), yet these students are typically not identified until they have exhibited serious problems,

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

including school failure, over multiple school years. Behavioral interventions based on an understanding of “why” a student displays problem behavior have shown promising results for addressing a wide range of problem behaviors. One such intervention with evidence of efficacy is the Class-wide Function-based Intervention Teams (CW-FIT), which is designed to teach appropriate behavior skills and reinforce the use of those skills through a game format. CW-FIT has prior evidence of efficacy to improve class-wide on-task behavior and decrease disruptive behaviors of students with or at risk for EBD. This study will replicate prior findings with a larger, more diverse population across three geographical areas.

University of Missouri

Principal Investigator: Janine Stichter

Amount: \$2,896,933

Award Number: R324A120027

Period of Performance: 3/1/12–2/28/16

Description: *Evaluating the Efficacy of the School-based Social Competence Intervention for Adolescents (SCI-A) with High Functioning Autism* — Youth with high-functioning autism spectrum disorders (ASD) exhibit social skills deficits that inhibit their ability to navigate complex social environments. Research on existing social skills programs has been somewhat mixed but, in general, concludes that interventions delivered in more natural contexts and environments are associated with stronger maintenance and generalization of social skills. With funding from the Institute of Education Sciences, the research team developed the Social Competence Intervention for Adolescents (SCI-A), a cognitive-behavior intervention approach that targets skills designed to promote self-monitoring and self-evaluation (e.g., recognizing feelings and emotions of self and others). The intervention is also designed to provide effective scaffolded instruction, building upon each skill, with maintenance of learned skills reinforced throughout by the use of repetition, integration and feedback as new skills are added. SCI-A has demonstrated feasibility of implementation as well as promise for improving student outcomes. The research team is now evaluating the efficacy of SCI-A with youth with high-functioning autism spectrum disorder.

University of Oregon

Principal Investigator: Robert Horner

Amount: \$2,523,998

Award Number: R324A120041

Period of Performance: 3/1/12-2/29/16

Description: *Team-Initiated Problem Solving for Improved Student Outcome* — School-wide Positive Behavior Support) is a frequently used systems-level intervention that involves school teams to actively engage in assessment, decisionmaking, and implementation of behavior supports. Team-Initiated Problem Solving (TIPS) is a training and coaching model for teaching school teams to use behavioral and academic progress-monitoring data to define and solve problems. TIPS has demonstrated feasibility of implementation by school teams as well as promise for improving student outcomes, but the efficacy of the intervention has not yet been tested. The purpose of this efficacy grant is to determine the extent to which TIPS procedures change how school teams identify problems and build solutions, the extent to which the faculty in a school implements those solutions, and the resulting impact on student academic and behavioral outcomes.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

University of Oregon

Principal Investigator: Kent McIntosh

Amount: \$1,425,209

Award Number: R324A120278

Period of Performance: 7/1/12-6/30/16

Description: *Identifying Factors Predicting Implementation and Sustainability of School-wide Positive Behavioral Interventions and Supports* — Although many effective interventions are adopted in today's schools, they are rarely sustained beyond a year or two once external support (e.g., grant funding, university-based training) is removed. The existing literature on sustainability of practices in schools is primarily anecdotal and not based on research. The purpose of this study is to identify malleable factors that enhance or inhibit the implementation and sustainability of school-wide social-emotional and behavior support practices. The research will focus on School-wide Positive Behavioral Interventions and Supports (SWPBIS) because SWPBIS has been widely adopted in the United States, many schools have sustained its use, and PBIS relies on validated fidelity of implementation measures that can be used to document sustained implementation.

University of South Carolina

Principal Investigator: Kate Flory

Amount: \$1,530,974

Award Number: R324A120003

Period of Performance: 3/1/12-2/28/15

Description: *Mediators of Social Impairment among Children with ADHD* — Children with Attention Deficit Hyperactivity Disorder (ADHD) typically exhibit behaviors such as inattention, hyperactivity, and impulsivity. However, children with ADHD also typically suffer from social problems. Significant efforts have been directed toward developing and testing social skills treatment programs. However, with very few exceptions, these programs do not improve outcomes for students. Although not specific to children with ADHD, research has established a model of mediators of social functioning that includes social cognition, social performance, and self-control deficits. These three mediators correspond to many of the hypothesized deficits of children with ADHD that may contribute to their social impairment. However, no research has evaluated a full mediation model that examines the relation between ADHD symptoms and social impairment. Therefore, in this project, researchers will study the role of these potential mediators (social cognition, social performance, and self-control deficits) in the social and academic functioning of children with ADHD.

University of South Florida

Principal Investigator: Kimberly Crosland

Amount: \$1,338,956

Award Number: R324A110180

Period of Performance: 7/1/11–6/30/14

Description: *Development of an Intervention Model to Improve Educational Outcomes of Youth in Foster Care by Decreasing Runaway Behavior* — Children and youth with or at risk for disabilities in foster care are at increased risk for school failure due in part to a high frequency of running away from their residential placements (e.g., foster home) in the child welfare system. When children and youth run away, they are missing school, which leads to poor educational outcomes. The purpose of this project is to develop and pilot test an intervention package that

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

includes a functional assessment process and a menu of assessment-based intervention strategies designed to increase placement stability and improve academic outcomes for youth with disabilities in foster care.

Special Education Policy, Finance, and Systems

American Institutes for Research

Principal Investigator: Louis Danielson

Amount: \$1,198,919

Award Number: R324A120110

Period of Performance: 9/1/12–8/31/15

Description: *Enhancing Accessibility for Students with Disabilities in Large-Scale Reading Assessments* — Students with reading and language disabilities make up the largest group of students with disabilities. The majority of these students will participate in their state assessment with or without accommodations. Very little is known about the effects of these accommodations on standardized test scores, yet states continue to allow different accommodations for their state assessment. The purpose of this study is to identify a set of valid accommodations that educators could provide to students with word-reading disabilities as a means of demonstrating their skills on standardized reading comprehension assessments.

Educational Testing Service

Principal Investigator: Heather Buzick

Amount: \$300,089

Award Number: R324A120224

Period of Performance: 7/1/12–6/30/14

Description: *Validating the Use of Growth Measures from Statewide Standards-Based Summative Assessments for Students with Disabilities* — There has been a national push to use growth modeling with scores from statewide standards-based summative assessments to evaluate schools, teachers, and student subgroups. However, for students with disabilities, there has been little research exploring the use of growth modeling to determine if interpretations about schools, teachers, and the academic progress of these students are valid. The purpose of this study is to provide validity evidence for the use of test scores from students with disabilities on statewide standards-based summative assessments for the purposes of growth modeling and other growth-based models for accountability.

Educational Testing Service

Principal Investigator: Cara Cahalan Laitusis

Amount: \$1,171,289

Award Number: R324A110088

Period of Performance: 3/1/11–2/28/14

Description: *Development of Computer-based Testing Accommodations for Students with Visual Disabilities* — Computer-based testing holds promise for increasing accessibility of state assessments for children with disabilities. However, providing appropriate accommodations for this testing presents challenges, especially for students who are Braille readers. The purpose of this project is to add enhancements in testing accommodations for students who are blind or have low vision to an existing platform that delivers a grade 8 reading assessment. This project will

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

provide a fully functional computer-based test delivery platform designed to increase accessibility and meet the needs of these students.

Research Foundation CUNY, Queens College

Principal Investigator: Carolyn Hughes

Amount: \$1,593,560

Award Number: R324A120407

Period of Performance: 7/1/11–6/30/15

Description: *Development and Validation of the Supports Intensity Scale (SIS) for Children* — Individuals with intellectual or developmental disability may require ongoing support to participate in typical life activities such as navigating the neighborhood. In order to identify the supports needed by adults with intellectual disabilities, an assessment called the Supports Intensity Scale has been developed, validated, and adopted worldwide. However, no equivalent assessment for children with intellectual or developmental disabilities exists. The purpose of this project is to develop an adapted version of the assessment for children with disabilities. The Supports Intensity Scale for Children will be designed to be used easily by teachers and related service providers with input from parents to assess the support needs of children ages 5 to 16 with intellectual or developmental disabilities.

University of Illinois

Principal Investigator: James Shriner

Amount: \$1,478,443

Award Number: R324A120081

Period of Performance: 7/1/12-6/30/15

Description: *Implementing the Common Core State Standards for Students with Disabilities: Research and Development of Web-based Supports for IEP Team Decision* — Students with disabilities who receive special education services through the Individuals with Disabilities Education Act have an individualized education program (IEP). Schools are turning toward the new Common Core Standards and using the standards as the basis for developing IEPs and providing instruction for students with disabilities. In this project, the research team will further develop a tutorial program, IEPQ-Core, to assist IEP teams in writing measurable annual goals linked to these new standards.

University of Wisconsin, Madison

Principal Investigator: Thomas Kratochwill

Amount: \$1,282,607

Award Number: R324A120212

Period of Performance: 8/1/12-7/31/15

Description: *Systems-level Analysis of Evidence-based Intervention Implementation by Problem-Solving Teams* — Research indicates that schools rarely implement evidence-based practices for students exhibiting behavioral problems or disorders. In many cases, implementation of evidence-based practices may require a system-level change to improve their adoption and use as well as improve support and commitment from all school personnel. The purpose of this project is to develop and evaluate an intervention protocol that adopts the principles of applied behavior analysis and applies them to an organization or system. The intervention protocol will help school problem-solving teams improve evidence-based practice selection and implementation and, ultimately, address the needs of students with behavior problems or disorders.

Technology for Special Education

University of Arizona

Principal Investigator: Carole Beal

Amount: \$1,204,061

Award Number: R324A120006

Period of Performance: 3/1/12–2/28/15

Description: *AnimalWatch-VI Suite: A Comprehensive Program to Increase Access to Mathematics for Students with Visual Impairments* — The impact of visual impairment is widely recognized to be particularly significant for mathematics learning as vision provides important access to information that supports the development of conceptual understanding in mathematics. Students with visual impairments consistently lack access to the mathematics curriculum and, therefore, show substantially lower achievement in mathematics and reduced participation in science, technology, engineering and mathematics fields. Helping students with visual impairments master core algebra readiness mathematics skills, such as basic computation, fractions and pre-algebra, will position them to succeed in high school and beyond. The goal of this project is to develop Animal Suite-VI, a set of 14 web-delivered, accessible instructional modules covering computation, fractions and variables and expressions for students with visual impairments in middle school and high school.

University of Oregon

Principal Investigator: Hank Fien

Amount: \$1,499,535

Award Number: R324A120071

Period of Performance: 7/1/12–6/30/15

Description: *Development of a Game-based Integrated Learning and Assessment System to Target Whole Number Concepts (Project NumberShire)* — Students who perform poorly in mathematics in the early elementary grades are likely to continue to perform poorly in mathematics in later grades. A successful start in mathematics is critical to later mathematics achievement. The purposes of this project are to (1) develop NumberShire-K, a browser-based, educational video game in which first-grade students learn and apply the mathematical concepts and skills of whole numbers; and (2) assess the feasibility and the promise of intervention effectiveness. NumberShire-K will include research-based instructional components that are beneficial to students with or at risk for math disabilities.

Transition Outcomes for Secondary Students with Disabilities

Board of Regents of the University of Wisconsin

Principal Investigator: Bonnie Doren

Amount: \$688,422

Award Number: R324A120408

Period of Performance: 7/1/12–6/30/14

Description: *Examining Malleable Factors Associated with School and Post-School Outcomes of Economically Disadvantaged Youth with Disabilities: A Secondary Analysis of Data from the National Longitudinal Transition Study (NLTS2)* — Living in poverty during childhood can be predictive of lower school performance and increased likelihood of dropping out of school.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Students with disabilities are twice as likely to be living in poverty as students without disabilities. However, little empirical research has explored the relationship between poverty and school/post-school outcomes focusing on students with disabilities. The research team will use extant data from the National Longitudinal Transition Study-2 (NLTS2) to investigate whether there are malleable individual, family, and school-based characteristics that act as risk or protective factors, mediating or moderating the effects of poverty on school performance and life outcomes of students with disabilities.

SRI International

Principal Investigator: Lynn Newman

Amount: \$692,810

Award Number: R324A120188

Period of Performance: 7/1/12-6/30/14

Description: *Factors Associated with High School and Post-High School Outcomes for Deaf and Hard-of-Hearing Students (Secondary Analysis of NLTS2 Data)* — Identifying promising programs, policies, and interventions that can improve outcomes for deaf and hard-of-hearing students during and after high school remains a challenge for researchers and practitioners. The purpose of this project is to use a national longitudinal dataset of students with disabilities to identify school-based interventions that are associated with academic, social/behavioral, vocational, and functional outcomes experienced by deaf or hard-of-hearing students during and after high school.

University of Illinois

Principal Investigator: Karrie Shogren

Amount: \$384,323

Award Number: R324A110040

Period of Performance: 8/16/11–8/15/13

Description: *Exploring the Predictors and Outcomes of Self-Determination for Secondary Students with Disabilities Using NLTS2* — Historically, students with disabilities have had poor transitions to post-school life. Promoting the development of self-determination skills in students with disabilities is considered an area of best practice in this field. However, little empirical research has explored the relationship between individual and ecological factors and self-determination. The research team will use extant data from the National Longitudinal Transition Study 2 (NLTS2) to identify individual and ecological factors that predict self-determination and examine the relationship between self-determination and long-term outcomes of students with disabilities.

University of Nebraska, Lincoln

Principal Investigator: Alexandra Torkelson-Trout

Amount: \$3,487,223

Award Number: R324A120260

Period of Performance: 7/1/12-6/30/16

Description: *On the Way Home: Promoting Transition Outcomes in Youth with EBD or LD—An Efficacy and Replication Study* — For the nearly half-million children and youth served in out-of-home care, reintegrating into the home and school settings following out-of-home placements presents many challenges. These challenges are even greater for the estimated 30-85 percent who are also diagnosed with a disability. This project will investigate the efficacy of On the Way

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Home, an aftercare program for youth with emotional and behavioral disorders (EBD) or learning disabilities (LD) who transition into the home, school, and community settings following a stay in out-of-home care. This project has three primary aims: (1) to test the effects of On the Way Home on parent self-efficacy and empowerment and on the school success of transitioning students with EBD or LD; (2) to test the effects of On the Way Home on school and placement stability and the academic and behavioral functioning of students with EBD or LD; and (3) to assess the impact of participant characteristics and implementation of the On the Way Home intervention on the proximal (i.e., post-test) and distal (i.e., 9-month follow-up) outcomes of students with EBD or LD and their parents or caregivers.

University of North Carolina at Charlotte

Principal Investigator: David Test

Amount: \$2,495,693

Award Number: R324A110018

Period of Performance: 5/1/11–4/30/15

Description: *A Study of the Effects of a Three-Tier Model of Interagency Collaboration on Transition Outcomes for Students with Disabilities* — Although post-school outcomes for students with disabilities have improved in the last decade, students with disabilities still consistently experience poor outcomes in the areas of education, employment, and independent living when compared to their peers without disabilities. To improve transition outcomes, the researchers will examine the efficacy of a three-tier model of interagency collaboration, called the Communicating Interagency Relationships and Collaborative Linkages for Exceptional Students (CIRCLES), on transition outcomes for students with disabilities. The researchers will provide empirical information about the CIRCLES intervention as compared to the business-as-usual services provided to students with disabilities.

National Research and Development Centers

Georgia State University Research Foundation, Inc.

Principal Investigator: Amy Lederberg

Amount: \$10,000,000

Award Number: R324C120001

Period of Performance: 7/1/12–6/30/17

Description: *Special Education Research and Development Center on Reading Instruction for Deaf and Hard of Hearing Students* — Poor literacy skills have been characteristic of the deaf population for decades. Improving reading outcomes for students who are deaf or hard of hearing requires substantial research, particularly research to identify, develop, and test instructional approaches, curricula, and other innovative education interventions designed to enhance the reading skills of students who are deaf or hard of hearing. The focus of the Center on Reading Instruction for Deaf and Hard of Hearing Students is a program of research to explore underlying factors related to literacy skills of deaf and hard of hearing students in kindergarten through grade 2 and to develop innovative approaches to improving reading instruction for these students. The ultimate objective of the Center is to improve literacy skills for students in early elementary school to maximize the potential long-term impact of an early literacy skills intervention on literacy development and overall school performance.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Lehigh University

Principal Investigator: Lee Kern

Amount: \$10,447,669

Award Number: R324C080006

Period of Performance: 7/1/08–6/30/13

Description: *Center on Serious Behavior Disorders at the Secondary Level* — The Center on Serious Behavior Disorders at the Secondary Level will develop and evaluate a package of intervention strategies for students in grades 9 through 12 with severe behavior disorders. The Center's primary research study will involve the development, implementation, and evaluation of a comprehensive set of intervention strategies. The intervention package will include multiple components addressing academic and behavior knowledge and skills; improving youth competence in social skills, mental health, and general living skills; and increasing family and community supports. An experimental, random assignment test of the efficacy of the intervention package will be conducted to determine whether the intervention package improves both academic and behavioral outcomes as compared to services typically provided to students with serious behavior disorders. The Center also will conduct supplementary studies; broadly disseminate its findings; and provide national leadership on improving education related to serious behavior disorders at the secondary level. The Center's long-term goal is to improve the behavior, social, and academic outcomes of secondary students with serious behavior disorders.

University of North Carolina at Chapel Hill

Principal Investigator: Samuel Odom

Amount: \$9,994,452

Award Amount: R324C120006

Period of Performance: 7/1/12–6/30/17

Description: *Center on Secondary Education for Students with Autism Spectrum Disorders (CSESA)* — According to the Centers for Disease Control and Prevention, approximately 1 in 88 children have an autism spectrum disorder (ASD). Autism is a pervasive disorder affecting multiple developmental outcomes (e.g., behavior, communication, cognitive skills). The heterogeneity of abilities poses a significant challenge for schools in determining how best to meet the needs of each child within the least restrictive environment. The research to date suggests that despite some mitigation in the severity of some symptoms associated with ASD as children grow older, significant limitations persist that can affect a range of outcomes. The Center's primary research will involve developing a comprehensive school- and community-based treatment model for high school students with ASD, and evaluating the efficacy of the intervention. The purpose of the intervention is to improve cognitive, communicative, academic, social, behavioral, functional or transition outcomes of secondary students with ASD.

University of Oregon

Principal Investigator: Gerald Tindal

Amount: \$11,677,134

Award Amount: R324C110004

Period of Performance: 7/1/11–6/30/16

Description: *National Research and Development Center on Assessment and Accountability for Special Education* — The increased demand for accountability in education focused on improved student academic performance has led to many questions about the most accurate method for capturing individual student progress, particularly for students with disabilities. Although there is

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

a substantial amount of existing research on the characteristics of students with disabilities and assessment of their abilities and skills for purposes of classification and intervention, far less is known about the natural developmental progress in achievement for students with disabilities. The primary aims of this project are to identify academic growth trajectories of students with disabilities, and to develop and test practical and relevant methods of accurately measuring academic growth for students with disabilities for use in accountability systems.

Postdoctoral Research Training Program in the Education Sciences

University of Florida

Principal Investigator: Patricia Snyder

Amount: \$642,840

Award Number: R324B120002

Period of Performance: 5/15/12–5/14/15

Description: *Postdoctoral Research Training Fellowships in Early Intervention and Early Learning in Special Education at the University of Florida* — This program will prepare fellows to design, implement, and evaluate research focused on improving developmental outcomes and school readiness of infants, toddlers and young children with or at risk for disabilities. The overarching goal of this award is to advance the professional development of interdisciplinary research scientists to conduct rigorous and relevant early intervention research and contribute to the advancement of knowledge, theory, and methodology in the field of special education. The program will support the acquisition and mastery of the knowledge and skills necessary to conduct early childhood special education research. The program will emphasize a situated learning and cognitive apprenticeship approach in which there is an experienced mentorship team for each fellow. Fellows will participate in carefully planned activities informed by their individualized fellowship training plans, including the design, implementation and evaluation of focused programs of research; bi-weekly research meetings; research colloquia and interdisciplinary seminars; manuscript preparation for publication; presentation at scientific meetings; and grant writing.

University of Kansas Center for Research, Inc.

Principal Investigator: Charles Greenwood

Amount: \$687,000

Award Number: R324B120004

Period of Performance: 3/1/12–2/29/16

Description: *Post-Doctoral Research Training Program in Special Education: Response to Intervention (RTI) in Early Childhood* — The program will provide training experiences for research focused on the Response to Intervention (RTI) approach to early intervention and early childhood special education, with implications for improving school readiness. The overall aim of the program is to provide trainees with opportunities to learn firsthand about advances in the RTI prevention approach and interrelated research and methodological foci. The program is housed at the Juniper Gardens Children's Project at the University of Kansas, with training opportunities available through the multi-site Center for Response to Intervention in Early Childhood. The knowledge and content domain of the training includes the RTI prevention/intervention framework; advances in early childhood RTI models; language, social-emotional, and early literacy competency domains; instructional interventions, curricula and

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

multiple tiers of support; and research communication (e.g., publications). The measurement and research methods domain of the training includes universal screening and progress monitoring measurement requirements of RTI, rigorous experimental study designs, and univariate and latent growth modeling techniques. Guided by an Individual Academic Fellowship Plan, fellows will be mentored by core faculty, audit relevant courses and summer institutes, and participate directly in research projects.

University of Nebraska, Lincoln

Principal Investigator: Mike Epstein

Amount: \$643,776

Award Number: R324B110001

Period of Performance: 7/1/11–6/30/15

Description: *University of Nebraska's Post-Doctoral Program in Emotional Disturbance (ED)*

— This program provides postdoctoral fellows with extensive research training on projects related to educating children with emotional disturbance (ED). The overarching goal of program is to prepare four postdoctoral fellows with skills to conduct rigorous research on the development and evaluation of interventions and assessments related to ED. The training program is housed at the University of Nebraska's Department of Special Education and Communication Disorders but will rely significantly upon the existing partnership the university has with Boys Town, a national service provider for intervention services to children with or at risk for disabilities. The post-doctoral program focuses on the fellows' acquisition of the advanced statistical and methodological skills necessary to conduct meaningful, large-scale research projects, including quasi-experimental design, randomized clinical trials, regression models, advanced modeling, and small sample sizes. Additionally, this program will focus on knowledge and competence in special education for children with ED and writing skills for submitting competitive grant proposals. Fellows will work under the dual mentorship of senior and junior faculty members and have access to a multitude of university and non-university training resources.

University of Texas Health Science Center at Houston

Principal Investigator: Marcia Barnes

Amount: \$680,565

Award Number: R324B110007

Period of Performance: 3/1/11–2/29/16

Description: *Special Education Training Fellowship: Interventions and Professional*

Development Models in Language and Literacy — This program provides post-doctoral fellows with extensive research training in special education research with a focus on language and literacy interventions. The overarching goal of program is to prepare four postdoctoral fellows with skills to conduct rigorous research in language and literacy special education research, as well as skills in grant writing and publication. The training program is housed at the University of Texas Health Science Center Children's Learning Institute (CLI) in Houston. This program consists of a variety of training activities and opportunities, including work on both late and early stages of research projects, development of individualized training plans with mentors, CLI Collaborative monthly meetings (for the presentation of ideas and receipt of feedback on research design), research working group meetings, a distinguished speaker series, shadowing of consultants in the Data Analysis Work Group, the university-wide postdoctoral training program,

and opportunities for outside summer institute training or auditing courses in methodology and statistics.

Contracts

Small Business Innovation Research

3-C Institute for Social Development

Principal Investigator: Janey McMillan

Amount: \$1,050,000

Contract Number: ED-IES-11-C-0033

Period of Performance: 6/16/11-12/15/13

Description: *A Computer-based Social Intervention for Students with High Functioning ASD: Using Technology to Improve Special Education* — Students with high-functioning autism spectrum disorders (HFA) face unique challenges with social skills and social relationships, often experiencing heightened levels of social isolation and exclusion from social opportunities. Without intervention, these social difficulties can interfere significantly with students' ability to engage in and learn at school. However, few social interventions are available that are both evidence-based and feasible to implement in a school. In addition, products that allow educators to simultaneously implement a social intervention and measure its impact on students' social functioning are lacking. This project will develop a fully interactive computer-based social intervention for elementary school students with HFA.

Attention Control Systems, Inc.

Principal Investigator: Richard Levinson

Amount: \$150,000

Contract Number: ED-IES-12-C-0047

Period of Performance: 6/20/12–12/19/12

Description: *PEAT Communication Scheduler for Autism* — This project team is developing a prototype of the Planning Execution Assistant and Trainer (PEAT), an application (app) for mobile phones and tablets to provide cues and support to non-verbal students with ASD in special education settings. As part of this intervention, students will carry and use iPhones at all times, both in and out of school. PEAT will support students in achieving greater independence and self-reliance. Pilot research in Phase I will seek to demonstrate that the software prototype functions as planned, the product can be used by service providers, and students are engaged by the prototype.

HandHold Adaptive, LLC

Principal Investigator: Robert Tedesco

Amount: \$150,000

Contract Number: ED-IES-12-C-0043

Period of Performance: 6/20/12-12/19/12

Description: *App for Speech Development for Students with ASD* — Autism spectrum disorders (ASD) are severe neurodevelopmental disabilities characterized by deficits in social and communication skills and the presence of restrictive, repetitive behaviors. For the 80 percent of individuals with ASDs who speak, prosody—the rhythm, stress, and intonation of speech—is

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

among the most noticeable and chronic impairments. Prosodic speech deficits impede social interaction and limit participation in vocational, recreational, and learning activities. The project team is developing a prototype of SpeechPrompts, a multi-faceted speech therapy application (app) for phones and tablets to engage students with ASD in a variety of customizable therapy exercises to address strengths and challenges. The app will capture student speech, provide response in real-time, reward target behaviors, and track performance. The app will be designed for both home and in-school use. Pilot research in Phase I will seek to demonstrate that the software prototype functions as planned, the product can be used by service providers and students are engaged by the prototype.

HandHold Adaptive, LLC

Principal Investigator: Robert Tedesco

Amount: \$849,488

Contract Number: ED-IES-11-C-0040

Period of Performance: 6/29/11-6/28/13

Description: *iPrompt to Improve Teaching Students with ASD* — Autism spectrum disorders (ASD) are neurodevelopmental disabilities characterized by deficits in social competence, communication skills, and behaviors that are restricted and repetitive. Prevalence rates of ASD are 1 in 110 children. Many students with ASD rely on visual supports to engage in learning in education settings. The purpose of this project is to fully develop a product to allow teachers to customize and present different visual supports in supporting students with ASD.

Information Research Corporation

Principal Investigator: Marjorie Darrah

Amount: \$149,603 (Phase I); \$899,676 (Phase II)

Contract Number: ED-IES-11-C-0028

Period of Performance: 6/16/11-12/15/13

Description: *Haptic Immersion Platform to Improve STEM Learning for the Visually Impaired* — Research findings indicate a lack of products to support students with visual impairments in STEM (science, technology, engineering, and mathematics) classrooms, as schools today often rely on large print or curricular materials that cannot wholly convey information to students. This project will develop a platform to enrich STEM learning among students with (or without) visual impairments.

Institute for Disabilities Research and Training, Inc.

Principal Investigator: Corrine Vinopol

Amount: \$149,989 (Phase I); \$899,951 (Phase II)

Contract Number: ED-IES-11-C-0032

Period of Performance: 6/16/11-12/15/13

Description: *MyASL Quizmaker* — American Sign Language (ASL) is a visual and gestural language that is distinct from English and has its own grammar, syntax, vocabulary, and no text representation. Despite the differences between the languages, students who use ASL are typically assessed with protocols for English-speaking students, as few protocols exist specifically for students who use ASL. Research had indicated that tests administered in English to ASL students often do not provide an accurate measure of progress. This project will develop a reliable testing mechanism to evaluate deaf individuals who communicate with ASL in the areas of vocabulary knowledge and reading comprehension.

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Quantum Simulations, Inc.

Principal Investigator: Benny Johnson

Amount: \$150,000 (Phase I); \$900,000 (Phase II)

Contract Number: ED-IES-11-C-0034

Period of Performance: 6/16/11-12/15/13

Description: *Artificial Intelligence Software to Tutor Literary Braille to the Blind and Visually Impaired* — Braille is the primary medium of written communication for persons who are blind. Research indicates that Braille literacy strongly correlates with stronger reading habits and the pursuit of higher education, whereas Braille illiteracy negatively impacts students' academic performance and ability to navigate the everyday world. This project will develop a web-based tutoring system to provide on-demand Braille literacy support to students with visual impairments. The main technological objectives include designing and implementing a user interface for dynamic Braille input and output, designing a rules-based expert system for the Braille curriculum and designing a rules-based expert system to analyze student work and provide feedback.

Teachley, Inc.

Principal Investigator: Herbert Ginsburg

Amount: \$150,000

Contract Number: ED-IES-12-C-0046

Period of Performance: 6/20/12–12/19/12

Description: *Think Facts Math Game for Single Digit Operational Fluency* — This project team is developing a prototype of the Think Facts math game application (app) for touch screen tablets to support grade school students with major learning difficulties in practicing and learning number facts, strategies, and number sense. The games will be adaptive in nature and will provide feedback to teachers to inform practice. Pilot research in Phase I will seek to demonstrate that the software prototype functions as planned and the product is engaging and can be used by students with major learning difficulties.

Thought Cycle, Inc.

Principal Investigator: Marshall Gause

Amount: \$150,000

Contract Number: ED-IES-12-C-0045

Period of Performance: 6/20/12–12/19/12

Description: *NumberShire II: Math Games for 2nd Graders with or at-risk for LD* — This project team is developing a prototype of NumberShire II, a web-based suite of mini math games for second-graders with or at risk for disabilities. The games will be set in the context of a fantasy-themed village and will adapt the level of difficulty based on individual student needs. Additionally, the project will support students in learning numbers and operations in base 10, operations, and algebraic thinking. Pilot research in Phase I will seek to demonstrate that the software prototype functions as planned and that the prototype can be used by and is engaging to students with or at risk for disabilities.

Thought Cycle, Inc.

Principal Investigator: Marshall Gause

Amount: \$149,994 (Phase I); \$899,960 (Phase II)

Contract Number: ED-IES-11-C-0026

NCSER – Grants and Contracts Awarded in Fiscal Years 2011 and 2012

Period of Performance: 6/16/11-12/15/13

Description: *Project NumberShire: A Game-Based Integrated Learning and Assessment System to Target Whole Number Concepts* — Research points to several features of technology-based math games that may be important for supporting the learning needs of students with or at risk for disabilities. These features include games that engage students in highly motivating narratives, provide focused foundational knowledge and scaffolding of learning whole number concepts, and provide performance monitoring capabilities. The project will develop an integrated learning and assessment gaming system to assess and teach whole number concepts to first-grade students with or at risk for mathematics disabilities.

The Attainment Company, Inc.

Principal Investigator: Carol Stranger

Amount: \$1,049,636

Contract Number: ED-IES-11-C-0027

Period of Performance: 6/30/11-12/29/13

Description: *Go Talk Phonics: Phonics for Individuals with Disabilities* — Prior research demonstrates that younger students who are low- or non-verbal often have difficulty. To teach all children to read, it is critically important to break this barrier. Literacy is the foundation for increased independence and opens doors to every aspect of adult life. The proposed product, GoTalk Phonics, will provide the building blocks for developing phonics skills for this population, allowing students who are non-verbal to reach the next plateau of literacy success independently practicing skills that provide a foundation for early literacy. The product will provide support to students who are low- or non-verbal to independently practice phonics skills associated with early literacy success.