

EDUCATION RESEARCH AND DEVELOPMENT CENTER GRANTS

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REQUEST FOR APPLICATIONS

INSTITUTE OF EDUCATION SCIENCES

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PART I GENERAL OVERVIEW

1. REQUEST FOR APPLICATIONS

In this announcement, the Institute of Education Sciences (Institute) invites applications for research projects that will contribute to its Education Research and Development Center program.

For the FY 2009 competition, the Institute will consider only applications that meet the requirements outlined below under Part II Education Research and Development Centers and Part III Requirements of the Proposed Research.

Separate announcements are available on the Institute's website that pertain to the other research and research training grant programs funded through the Institute's National Center for Education Research and to the discretionary grant competitions funded through the Institute's National Center for Special Education Research (<http://ies.ed.gov/>).

2. OVERVIEW OF THE INSTITUTE'S RESEARCH PROGRAMS

The Institute's over-arching priority is research that contributes to improved academic achievement for all students, and particularly for those whose education prospects are hindered by inadequate education services and conditions associated with poverty, race/ethnicity, limited English proficiency, disability, and family circumstance.

With academic achievement as the major priority, the Institute focuses on outcomes that differ by periods of education. In the infancy and preschool period, the outcomes of interest are those that enhance readiness for schooling (e.g., language skills) and developmental outcomes for infants and toddlers with disabilities. In kindergarten through 12th grade, the core academic outcomes of reading and writing (including reading and writing in the disciplines), mathematics, and science are emphasized, as well as the behaviors and social skills that support learning in school and successful transitions to employment, independent living, and postsecondary education. At the postsecondary level, the focus is on enrollment in and completion of programs that prepare students for successful careers and lives. The same outcomes are emphasized for students with disabilities across each of these periods, and include the functional outcomes that improve educational and transitional results. The acquisition of basic skills by adults with low levels of education is also a priority.

In conducting research on academic outcomes, the Institute concentrates on conditions within the control of the education system, with the aim of identifying, developing, and validating effective education programs, practices, policies, and approaches, as well as understanding the factors that influence variation in their effectiveness such as implementation. Conditions that are of highest priority to the Institute are in the areas of curriculum, instruction, assessment (including the identification of students with disabilities), the quality of the education workforce, and the systems and policies that affect these conditions and their interrelationships (for example, accountability systems, delivery mechanisms including technology, and policies that support the ability of parents to improve educational results for their children through such means as choice of education services and provision of school-related learning opportunities in the home).

In this section, the Institute describes the overall framework for its research grant programs. The Institute addresses the educational needs of typically developing students through its Education Research programs and the needs of students with disabilities through its Special Education Research programs. Both the Education Research and the Special Education Research programs are organized by outcomes (e.g., reading, mathematics), type of education condition (e.g., curriculum and instruction; teacher quality; administration, systems, and policy), grade level, and research goals.

A. Outcomes

The Institute's research programs focus on improvement of the following education outcomes: (a) readiness for schooling (pre-reading, pre-writing, early mathematics and science knowledge and skills, and social development); (b) academic outcomes in reading, writing, mathematics, and science; (c) student behavior and social interactions within schools that affect the learning of academic content; (d) skills that support independent living for students with significant disabilities; and (e) educational attainment (high school graduation, enrollment in and completion of postsecondary education).

B. Conditions

In general, each of the Institute's research programs focuses on a particular type of condition (e.g., curriculum and instruction) that may affect one or more of the outcomes listed previously (e.g., reading). The Institute's research programs are listed below according to the primary condition that is the focus of the program.

a. Curriculum and instruction

Several of the Institute's programs focus on the development and evaluation of curricula and instructional approaches. These programs include: (a) Reading and Writing; (b) Mathematics and Science Education; (c) Cognition and Student Learning; (d) Social and Behavioral Context for Academic Learning; (e) Early Childhood Programs and Policies; (f) Interventions for Struggling Adolescent and Adult Readers and Writers; and (g) Education Technology.

b. Quality of the education workforce

A second condition that affects student learning and achievement is the quality of teachers and education leaders (e.g., principals, superintendents). The Institute funds research on how to improve teacher quality and education leadership through its programs on (a) Teacher Quality – Reading and Writing; (b) Teacher Quality – Mathematics and Science Education; (c) Education Leadership; and (d) Education Technology.

c. Administration, systems, and policy

A third approach to improving student outcomes is to identify systemic differences in the ways in which schools and districts are led, organized, managed, and operated that may be directly or indirectly linked to student outcomes. The Institute takes this approach in its programs on (a) Education Policy, Finance, and Systems; (b) Early Childhood Programs and Policies; (c) Middle and High School Reform; and (d) Postsecondary Education.

Applicants should be aware that some of the Institute's programs cover multiple conditions. For example, the following programs cover multiple conditions: (a) Early Childhood Programs and Policies; and (b) Education Technology.

C. Grade Levels

The Institute's research programs also specify the ages or grade levels covered in the research program. The specific grades vary across research programs and within each research program, and grades may vary across the research goals. In general, the Institute supports research for (a) prekindergarten and kindergarten, (b) elementary school, (c) middle school, (d) high school, (e) postsecondary education, (f) vocational education, and (g) adult education. In addition, the Institute supports research on infants and toddlers with disabilities.

D. Research Goals

The Institute has established five research goals for its research programs. Within each research program one or more of the goals may apply: (a) Goal One – identify existing programs, practices, and policies that may have an impact on student outcomes and the factors that may mediate or moderate the effects of these programs, practices, and policies; (b) Goal Two – develop programs, practices, and policies that are theoretically and empirically based; (c) Goal Three – evaluate the efficacy of fully

developed programs, practices, and policies; (d) Goal Four – evaluate the impact of programs, practices, and policies implemented at scale; and (e) Goal Five – develop and/or validate data and measurement systems and tools.

For a list of the Institute's FY 2009 research and training grant topics – including grant competitions through the Institute's National Center for Education Research and National Center for Special Education Research, please see Table 1 below. Funding announcements for these competitions may be downloaded from the Institute's website at <http://ies.ed.gov>.

Table 1: FY 2009 Research and Training Grant Topics

National Center for Education Research

1. Research Grant Topics
 - Reading and Writing
 - Mathematics and Science Education
 - Cognition and Student Learning
 - Teacher Quality – Reading and Writing
 - Teacher Quality – Mathematics and Science Education
 - Social and Behavioral Context for Academic Learning
 - Education Leadership
 - Education Policy, Finance, and Systems
 - Early Childhood Programs and Policies
 - Middle and High School Reform
 - Interventions for Struggling Adolescent and Adult Readers and Writers
 - Postsecondary Education
 - Education Technology
2. Research Training Grant Topics
 - Postdoctoral Research Training Program
 - Predoctoral Research Training Program
3. National Research and Development Center Topics
 - Center on Teacher Effectiveness
 - Center on Rural Education
 - Center on Turning Around Chronically Low-performing Schools
4. Statistical and Research Methodology in Education
5. Evaluation of State and Local Education Programs and Policies

National Center for Special Education Research

1. Research Grant Topics
 - Early Intervention and Early Childhood Special Education
 - Reading, Writing, and Language Development
 - Mathematics and Science Education
 - Social and Behavioral Outcomes to Support Learning
 - Transition Outcomes for Special Education Secondary Students
 - Cognition and Student Learning in Special Education
 - Teacher Quality
 - Related Services
 - Systemic Interventions and Policies for Special Education
 - Autism Spectrum Disorders
2. Research Training Grant Topics
 - Postdoctoral Special Education Research Training

PART II EDUCATION RESEARCH AND DEVELOPMENT CENTERS

3. PURPOSE

Under the Education Sciences Reform Act of 2002, the Institute supports national research and development centers (Centers) and intends for these Centers to contribute significantly to the solution of education problems in the United States by engaging in research, development, evaluation, and national leadership activities aimed at improving the education system, and ultimately, student achievement. Each of the national Centers conducts a focused program of education research in its topic area. In addition, each Center works cooperatively with the Institute to conduct supplemental research within its broad topic area and provide national leadership in advancing evidence-based practice and policy within its topic area. For information on existing Institute Centers, please see <http://ies.ed.gov/ncer/projects/program.asp?ProgID=13>.

For the 2009 Education Research and Development Center competition, the Institute invites applications for three National Education Research and Development Centers: (1) National Center on Teacher Effectiveness, (2) National Center on Rural Education, and (3) National Center on Turning Around Chronically Low-performing Schools. The Institute anticipates funding one Center under each topic. However, because the Institute is committed to funding only high quality work, the Institute will make an award for a particular Center only if at least one application for that Center is deemed meritorious under peer review and meets the requirements of the Request for Applications. In addition, applicants should note that the Institute will use a *cooperative agreement* mechanism that allows substantial Institute involvement in the activities undertaken with Federal financial support. The Institute intends to work cooperatively with grantees on the research projects and leadership activities as described below. The specific responsibilities of the Federal staff and project staff will be identified and agreed upon prior to the award.

4. BACKGROUND

The mission of the Institute includes sponsoring research that contributes to improved academic achievement for all students, and particularly for those whose education prospects are hindered by inadequate education services, and conditions associated with poverty, race/ethnicity, limited English proficiency, disability, and family circumstance. The mission of the Institute also includes disseminating information on the results of education research that are accessible and used by policymakers, educators, and the general public when making education decisions. One of the ways in which the Institute fulfills its mission is through its National Education Research and Development Centers.

The Institute's Research and Development Center program is different from the Institute's topical grant programs in the following ways: (1) Topical research grants, such as those in Teacher Quality or Mathematics and Science Education (for information on these and other programs, see <http://ies.ed.gov/ncer/projects/>), are to carry out a single program of research; whereas Centers carry out a focused program of research as well as a variety of smaller scale supplemental projects that address unmet research needs within the Center's broad topic area. (2) Topical research grants do not involve significant responsibility for providing national leadership in the research field; in contrast, these tasks are central to Centers. (3) Topical research grants typically have shorter durations, involve lower levels of funding, and do not address issues with strategies and approaches that have as much scale and breadth as is the case for Centers.

For its 2009 Center competition, the Institute is interested in applications that offer the greatest promise for: (1) contributing to the solution of a specific education problem within the Center topics described below; (2) providing relatively rapid research and scholarship on supplemental questions that emerge within the Center's topic area and that are not being addressed adequately elsewhere; and (3) providing national leadership within the Center's topic by developing position papers, hosting meetings, and

engaging in dialogue with researchers and practitioners in order to identify promising areas of research, development, and dissemination for the field and to advance evidence-based policy and practice.

PART III REQUIREMENTS OF THE PROPOSED RESEARCH

5. REQUIREMENTS FOR EACH CENTER TOPIC

A. Topic One: Requirements for the National Center on Teacher Effectiveness

a. Background

Education researchers have found that teachers matter when it comes to student achievement (e.g., Rivkin, Hanushek, & Kain, 2005; Rockoff, 2004). Using datasets in which students are matched to their teachers, researchers can identify those teachers whose students, on average, learn more over the course of a year relative to students who have less effective teachers, as well as those teachers who are more effective at closing the achievement gap between students who are performing below grade level and those who are meeting grade-level expectations. We do not, however, know what specific instructional and classroom practices distinguish effective teachers from less effective teachers.

The National Center on Teacher Effectiveness will complement the Institute's existing research programs on Teacher Quality. Through the Teacher Quality research programs, the Institute supports a wide range of projects to develop and evaluate teacher professional development programs. The Institute believes that the Center's focus on identifying the specific practices that distinguish between more and less effective teachers is an important step to improving overall teacher quality. In addition, the Institute believes that identification of those practices that distinguish between more and less effective teachers can lead to the development of practical tools that can be used by school districts to select, deploy, and retain more effective teachers. To this end, the Institute requests applications for a National Center on Teacher Effectiveness.

b. Significance of the focused program of research

(i) Focus of the Center.

For their focused program of research, applicants must first specify a grade range and content area for the Center. The grade range must cover at least three consecutive grades from prekindergarten through Grade 12. The academic content area for the Center must include reading, writing, mathematics, or science. For example, an applicant might propose a Center that focuses on effective teachers of early reading from kindergarten through Grade 2 or a Center that focuses on effective middle school mathematics teachers for Grades 6 through 8. To address the significance of the focused program of research, applicants should identify the content and grade-level focus of the proposed Center and provide a compelling rationale of the practical importance of the proposed focus.

(ii) Identification studies.

A major component of the focused program of research is to identify and describe the instructional and classroom practices of effective teachers. The Institute expects applicants to propose a study or set of studies that allows them (1) to reliably distinguish between persistently more and less effective teachers based on direct measures of student learning, including state achievement test results, and potentially involving other measures such as principals' ratings of teacher effectiveness, and (2) to determine the specific practices and characteristics that distinguish between more and less effective teachers. As an example, applicants might propose to (a) conduct value-added analyses of district longitudinal data to identify teachers that consistently are in the upper and lower quartile of teachers in terms of producing student gains in mathematics; (b) carry-out observational studies of these more and less effective teachers to identify practices that distinguish between the two groups; and (c) measure the performance of another group of teachers on the identified practices to confirm that performance on these practices does distinguish between more and less effective teachers. As another example, applicants might propose to (a) collect measures of individual differences in teacher characteristics and practices that are psychometrically sound and guided by prior research and theory; (b) assess student outcomes at the beginning and end of a year; and (c) correlate the

observations of teacher practices with student learning to identify those practices and characteristics that predict more and less effective teachers.

To address the significance of the identification studies, applicants should address the theoretical and empirical rationale for the proposed studies.

(iii) Develop and validate practical tools to measure teacher effectiveness.

The second major component of the focused program of research is to conduct studies to develop and validate practical instruments based on the results of the identification studies that education administrators could use to assess teacher effectiveness for purposes such as selection, retention, or deployment of more effective teachers or to identify areas of improvement for less effective teachers. Such instruments would need to be easy to administer and score so as not to overburden school district personnel.

Applicants do *not* need to address the significance of the studies to develop and validate practical tools to measure teacher performance.

c. Research plan for the focused program of research

The Institute anticipates that applicants may propose one or more identification studies and one or more development and validation studies for their focused program of research. If more than one identification study is proposed, applicants should provide a detailed research plan for **one** of the identification studies so that reviewers are able to evaluate the technical quality of the proposed identification study and thereby judge the applicant's capacity to conduct similar studies. Similarly, if more than one development and validation study is proposed, applicants should provide a detailed research plan for the development and validation of one instrument so that reviewers are able to evaluate the technical quality of the proposed development and validation project and thereby judge the applicant's capacity to conduct similar projects.

(i) Methodological requirements for identification studies.

(1) Studies using secondary analyses. Applicants should pose clear, concise hypotheses or research questions. Applicants should describe clearly the database(s) to be used in the investigation including information on sample characteristics, variables to be used, and ability to ensure access to the database if the applicant does not already have access to it. The database should be described in sufficient detail so that reviewers will be able to judge whether or not the proposed analyses may be conducted with the database. If multiple databases will be linked to conduct analyses, applicants should provide sufficient detail for reviewers to be able to judge the feasibility of the plan. If the applicant does not currently have access to the databases needed for the study, the applicant should provide sufficient documentation (e.g., letters of agreement) to assure reviewers that access can be obtained and the project can be carried out in a timely fashion.

(2) Primary data collection. Applicants may propose identification projects that are solely based on primary data collection or projects that include primary data collection in conjunction with secondary data analyses. For primary data collection activities, the applicant should clearly describe the sample and measures (including reliability and validity). Applicants should describe how the data would be collected (e.g., procedures for maintaining inter-observer reliability), coded, and quantified to allow quantitative analyses testing the relation between what was observed and desired outcomes.

(3) Data analysis. The applicant must include detailed descriptions of data analysis procedures. The relation between hypotheses, measures, and independent and dependent variables should be well specified.

(ii) Methodological requirements for developing and validating practical tools to assess teacher effectiveness.

The Institute recognizes that plans for the development of practical instruments to assess teacher effectiveness depend in large part on the results of the identification studies. The Institute asks applicants to provide a general description of the approach they would use to develop and validate practical tools to assess teacher effectiveness that can be used by schools or districts. Applicants should describe the iterative development process to be used in the design and refinement of the proposed measurement tool, including general procedures for developing and selecting items to be used in the assessment. Applicants should include plans for determining the reliability and validity of the instrument. Such plans should include a general description of how data would be analyzed.

B. Topic Two: Requirements for the National Center on Rural Education

a. Background

About 10 million public school students in our country – a little over one-fifth of the total public school enrollment – attend schools in rural areas (Provasnik, et al., 2007). In 2003-04, 56 percent of all operating school districts were in rural areas (Provasnik, et al., 2007). The purpose of the Center on Rural Education is to identify, develop, and validate strategies for improving the quality of rural education. In this section the Institute provides examples of the types of issues that might be addressed by the Center on Rural Education. However, applicants are not limited to addressing these specific issues.

Although rural schools are diverse in many ways, a common feature among rural schools that distinguishes them from schools in towns, suburbs, or cities is size. At both the elementary and secondary levels, rural students are more likely than their counterparts in towns, suburbs, or cities to attend schools with less than 200 students (Provasnik, et al., 2007). On average, rural public schools have lower pupil-to-teacher ratios (15.3:1) than do schools in towns (15.9:1), cities (16.9:1) or suburbs (16.9:1) (Provasnik, et al., 2007). However, students in smaller schools, have less access to advanced level courses. The percentage of public high school students attending schools that offer Advanced Placement courses is lower in rural areas (69%) as compared to cities (93%), suburban areas (96%), or towns (83%) (Provasnik, et al, 2007). The Institute is interested in applications that focus on development and testing of strategies for increasing opportunities for students in rural high schools to take advanced placement courses and other upper level mathematics, science, foreign language, or English courses (e.g., calculus, physics, chemistry, fourth year of a foreign language).

In the 2003-04 academic year, rural public school teachers were less likely to have a master's degree or higher (43 percent) relative to their counterparts in suburban schools (52 percent) or city schools (49 percent). There was no detectable difference, however, between rural public school teachers and teachers in towns (45 percent) with respect to advanced degrees (Provasnik, et al., 2007). Across rural areas, teachers in remote rural schools were less likely to have a master's degree or higher (32 percent) relative to teachers in rural fringe areas (40 percent) or distant rural areas (38 percent).¹ The Institute encourages applications to address challenges faced by rural schools, in general, and remote rural schools, in particular, in providing professional development and advanced training to their teachers. The Institute is interested in applications that propose creative and cost effective means by which districts or consortia of districts can provide beginning rural teachers with opportunities to be mentored by master

¹ In 2006, the Institute's National Center for Education Statistics began a new classification system for reporting locale data. "[Rural fringe refers to] Census-defined rural territory that is less than or equal to 5 miles from an urbanized area, as well as rural territory that is less than or equal to 2.5 miles from an urban cluster. [Distant rural refers to] Census-defined rural territory that is more than 5 miles but less than or equal to 25 miles from an urbanized area, as well as rural territory that is more than 2.5 miles but less than or equal to 10 miles from an urban cluster. [Remote rural refers to] Census-defined rural territory that is more than 25 miles from an urbanized area and is also more than 10 miles from an urban cluster" (Provasnik, 2007, p. 2).

teachers on a regular and on-going basis or other types of induction programs designed to provide support for and improve the quality of teaching of new rural teachers.

In the 2003-04 school year, the most difficult vacancies to fill in public rural schools appeared to be in teaching English as a second language (Provasnik, et al., 2007). Thirty-seven percent of rural schools indicated that recruiting teachers to teach English as a second language was very difficult and another 5 percent of rural schools indicated that they had vacancies in this area. The Institute solicits applications to develop and test strategies for recruiting teachers to teach English language learners and for training rural teachers in effective methods for teaching English language learners.

b. Significance of the focused program of research

For its focused program of research, the National Center on Rural Education is required to conduct projects to identify, develop, and evaluate education interventions – practices, programs, and policies – intended to improve the quality of education in rural schools and thereby improve student outcomes.

(i) Identification studies.

Applicants should propose studies to describe and identify practices, policies, conditions, and/or malleable factors that are associated with improved student (or teacher) outcomes in rural schools. Typical studies will rely on secondary data analytic techniques. Longitudinal state, local, and district level datasets provide one possible source of information; nationally representative datasets, such as those collected by the National Center for Education Statistics are another. Secondary data analyses can be used to empirically examine policy-relevant questions more quickly than studies that rely on primary data collection. For example, studies can capitalize on natural variation in education practice to identify the association between different practices and outcomes of interest. Exploratory studies of those conditions or malleable factors that are associated with student outcomes could lead to the development of interventions to change those conditions or factors in ways that ultimately lead to improved education outcomes. Typical identification studies will be completed within a short time period (e.g., one year), and the results of these analyses may be used to inform the ongoing research activities of the Center. In addition, descriptive studies that rely on primary data collection and that are intended to test the association between the quality of specific conditions and student outcomes are also appropriate.

To address the significance of the identification studies, applicants should address the theoretical and empirical rationale for the proposed studies and the practical importance of the practices, policies, conditions, or malleable factors that will be examined.

(ii) Development and evaluation studies.

The Institute expects the National Center on Rural Education to conduct studies to develop and/or rigorously evaluate education interventions intended to improve student outcomes directly (e.g., curricula, distance learning, instructional practices) or indirectly (e.g., improve recruitment of high quality teachers and administrators; online teacher professional development training).

To address the significance of the development and evaluation studies, applicants should describe (a) the intervention (e.g., features, components) and the theory of change for the intervention, (b) the theoretical and empirical support for the proposed intervention, and (c) the practical importance of the intervention. In essence, applicants are answering the question: *Why is the proposed intervention likely to produce better student outcomes relative to current education practices?*

c. Research plan for the focused program of research

The Institute anticipates that applicants may propose one or more identification studies and one or more development and/or evaluation studies for their focused program of research. If more than one identification study is proposed, applicants should provide a detailed research plan for **one** of the

identification studies so that reviewers are able to evaluate the technical quality of the proposed identification study and thereby judge the capacity of the applicant to conduct similar projects. Similarly, if more than one development and/or evaluation study is proposed, applicants should provide a detailed research plan for the development and/or evaluation of one intervention so that reviewers are able to judge the technical quality of the proposed development and/or evaluation project and thereby assess the applicant's capacity to conduct similar studies.

(i) Methodological requirements for identification studies (describe one study).

(1) *Studies using secondary analyses.* Applicants should pose clear, concise hypotheses or research questions. Applicants should describe clearly the database(s) to be used in the investigation including information on sample characteristics, variables to be used, and ability to ensure access to the database if the applicant does not already have access to it. The database should be described in sufficient detail so that reviewers will be able to judge whether or not the proposed analyses may be conducted with the database. If multiple databases will be linked to conduct analyses, applicants should provide sufficient detail for reviewers to be able to judge the feasibility of the plan. If the applicant does not currently have access to the databases needed for the study, the applicant should provide sufficient documentation (e.g., letters of agreement) to assure reviewers that access can be obtained and the project can be carried out in a timely fashion.

(2) *Primary data collection.* Applicants may propose identification projects that are solely based on primary data collection or projects that include primary data collection in conjunction with secondary data analyses. For primary data collection activities, the applicant should clearly describe the sample and measures (including reliability and validity). Applicants should describe how the data would be collected (e.g., procedures for maintaining inter-observer reliability), coded, and quantified to allow quantitative analyses testing the relation between what was observed and desired outcomes.

(3) *Data analysis.* The applicant must include detailed descriptions of data analysis procedures. Analytic strategies should allow investigators to examine mediators and moderators of programs and practices. The relation between hypotheses, measures, and independent and dependent variables should be well specified. Strong applications will include an explicit discussion of how exclusion from testing, or missing data, will be handled within the statistical analyses. Strong applications will propose an approach for comparing hypotheses or models of relationships among variables.

(ii) Methodological requirements for development studies.

Applicants must provide a detailed research plan in which they describe the proposed procedures for developing the intervention. Strong applications will include clear descriptions of: (1) what needs to be developed; (2) the procedures for developing the intervention; and (3) the procedures (including sample, measures, and procedures for analyzing data) for determining if the intervention is functioning as intended. It is helpful if applicants explain: (a) how they define "operating as intended" for the proposed intervention; (b) what data they will collect to determine how the intervention (or component) is operating; (c) how they will use the data they collect to revise the intervention; and (d) what criteria they will use to determine if the intervention (or component) operates as intended.

(iii) Methodological requirements for evaluation studies.

The Institute recognizes that the degree to which applicants can provide detailed plans for evaluating interventions depends in part on whether or not applicants are proposing to evaluate existing interventions or interventions that will be developed as part of the Center's research program. Applicants should make clear when the proposed evaluation(s) is (are) to occur (e.g., Year 1 of the Center award vs. Year 3 of the Center award). For evaluations occurring in the

later years of the Center award, for example, the Institute anticipates that applicants will not have recruited a sample to participate in the evaluation. In such cases, applicants should provide evidence that they have the experience and capacity to recruit and retain participants for their proposed evaluation(s).

Regardless of the timing of the evaluation(s), applicants must provide a detailed research design for evaluating the effect of the intervention. Applicants should describe how potential threats to internal and external validity would be addressed. Studies using randomized assignment to treatment and comparison conditions are strongly preferred. *Only in circumstances in which a randomized trial is not possible* may alternatives that substantially minimize selection bias or allow it to be modeled be employed. Acceptable alternatives include appropriately structured regression-discontinuity designs or other well-designed quasi-experimental designs that come close to true experiments in minimizing the effects of selection bias on estimates of effect size.

Applicants should describe the proposed measures, provide technical information on the reliability and validity of the measures, and detail procedures for collecting and coding data. In strong applications, applicants use the proposed theory of change as a framework and make clear how the proposed measures link to the proximal and distal outcomes that the intervention is intended to change. In strong applications, applicants would detail procedures for measuring the fidelity of the implementation of the intervention. Applicants must include a detailed description of their data analysis plan.

C. Topic Three: Requirements for the National Center on Turning Around Chronically Low-Performing Schools

a. Background

The focus of the National Center on Turning Around Chronically Low-Performing Schools is the identification and testing of strategies intended to rapidly improve, or turnaround, the performance of chronically low-performing schools. For the purpose of this Request for Applications, the Institute defines chronically low-performing schools as those schools that have a high proportion of students that fail to meet state standards of proficiency in reading and/or mathematics over two or more consecutive years. By rapid improvement, the Institute means substantial gains in student achievement within one to three years. By substantial gains, the Institute refers to improvements that change chronically low-performing schools so that they meet their state standards for adequate yearly progress under the No Child Left Behind Act of 2001 or meet other high and rigorous standards for achieving grade level proficiency.

The Institute views turning around chronically low-performing schools as distinct from school improvement strategies that are intended to produce incremental improvements over longer time periods. Although there may be similarities in school improvement and turnaround strategies, research on turnaround strategies suggests that the goal of producing a dramatic improvement in a short time period requires a different approach than the typical school improvement plan. To date, research on turning around chronically low-performing schools generally consists of case studies of low-performing schools that have achieved substantial improvements in student outcomes within a relatively short time period.² The Institute intends for the Center on Turning Around Chronically Low-Performing Schools to conduct rigorous research to develop and validate approaches to turning around chronically low-performing schools.

² For example, Duke, D. L., Tucker, P.D., Belcher, M., Crews, D., Harrison-Coleman, J., Higgins, J., et al. (n.d.) Lift-off: Launching the school turnaround process in 10 Virginia schools. Unpublished manuscript. Charlottesville, VA: Darden/Curry Partnership for Leaders in Education. Downloaded on March 15, 2008, from http://www.darden.edu/html/standard.aspx?menu_id=39&styleid+3&id=3215; Picucci, A. C., Brownson, A., Kahlert, R., & Sobel, A. (2002). *Driven to succeed: High-performing, high-poverty, turnaround middle schools*. Austin: The University of Texas at Austin, The Charles A. Dana Center.

b. Significance of the focused program of research

For its focused program of research, the National Center on Turning Around Chronically Low-Performing Schools is required to conduct projects to identify, develop, and evaluate strategies for turning around chronically low-performing schools.

(i) Identification studies.

Applicants must propose studies to describe and identify practices, policies, and conditions that are associated with turning around chronically low-performing schools. Typical studies will rely on secondary data analytic techniques, but may include primary data collection or rely solely on primary data collection. For secondary analyses, state and local longitudinal datasets provide one possible source of information. These data can be used to empirically examine policy-relevant questions more quickly than studies that rely on primary data collection. Typical identification studies will be completed within a short time period (e.g., one year). As an example, researchers could explore conditions such as staffing, funding, size, leadership, professional development, data driven management, and curriculum to identify those factors that might distinguish between schools that turned around their performance and those that did not. The examination of those conditions that are associated with turning around low-performing schools could lead to the development of interventions to change those conditions or factors in ways that ultimately lead to improved education outcomes. Secondary analyses may also provide evidence of the promise of specific strategies for turning around chronically low-performing schools.

To address the significance of the identification studies, applicants should address the theoretical and empirical rationale for the proposed studies and the practical importance of the practices, policies, conditions, or malleable factors that will be examined.

(ii) Development and evaluation studies.

The Institute expects the National Center on Turning Around Chronically Low-Performing Schools to conduct studies to develop and evaluate strategies for turning around chronically low-performing schools.

To address the significance of the development and evaluation studies, applicants should describe (a) the intervention (e.g., features, components) and the theory of change for the intervention, (b) the theoretical and empirical support for the proposed intervention, and (c) the practical importance of the intervention. In essence, applicants are answering the question: *Why are the proposed strategies likely to produce substantial changes in the performance of chronically low-performing schools relative to other practices?*

c. Research plan for the focused program of research

The Institute anticipates that applicants may propose one or more identification studies and one or more development and evaluation studies for their focused program of research. If more than one identification study is proposed, applicants should provide a detailed research plan for **one** of the identification studies so that reviewers are able to judge the technical quality of the proposed identification study and thereby assess the applicant's capacity for conducting similar projects. Similarly, if more than one development and evaluation study is proposed, applicants should provide a detailed research plan for the development and evaluation of one intervention so that reviewers are able to judge the technical quality of the proposed development or evaluation project and thereby assess the applicant's capacity for conducting similar projects.

(i) Methodological requirements for identification studies.

(1) Studies using secondary analyses. Applicants should pose clear, concise hypotheses or research questions. Applicants should describe clearly the database(s) to be used in the investigation including information on sample characteristics, variables to be used, and ability to

ensure access to the database if the applicant does not already have access to it. The database should be described in sufficient detail so that reviewers will be able to judge whether or not the proposed analyses may be conducted with the database. If multiple databases will be linked to conduct analyses, applicants should provide sufficient detail for reviewers to be able to judge the feasibility of the plan. If the applicant does not currently have access to the databases needed for the study, the applicant should provide sufficient documentation (e.g., letters of agreement) to assure reviewers that access can be obtained and the project can be carried out in a timely fashion.

(2) Primary data collection. Applicants may propose studies in which the primary focus is on the collection and analysis of original data. The applicant should carefully describe the sample, measures (including reliability and validity), and procedures proposed for the primary data collection. If observational data are collected, applicants should describe how the data would be collected (e.g., procedures for maintaining inter-observer reliability), coded, and quantified to allow quantitative analyses testing the relation between what was observed and school performance outcomes.

(3) Data analysis. The applicant must include detailed descriptions of data analysis procedures. Analytic strategies should allow investigators to examine mediators and moderators of programs and practices. The relation between hypotheses, measures, and independent and dependent variables should be well specified. Strong applications will include an explicit discussion of how exclusion from testing, or missing data, will be handled within the statistical analyses. Strong applications will propose an approach for comparing hypotheses or models of relationships among variables.

(ii) Methodological requirements for development and evaluation studies.

(1) Developing the intervention. Applicants must provide a detailed research plan in which they describe the proposed procedures for developing the intervention. Strong applications will include clear descriptions of: (1) what needs to be developed; (2) the procedures for developing the intervention; and (3) the procedures (including sample, measures, and procedures for analyzing data) for determining if the intervention is functioning as intended. It is helpful if applicants explain: (a) how they define "operating as intended" for the proposed intervention; (b) what data they will collect to determine how the intervention (or component) is operating; (c) how they will use the data they collect to revise the intervention; and (d) what criteria they will use to determine if the intervention (or component) operates as intended.

(2) Evaluating the intervention. Applicants must provide a detailed research plan for evaluating the effect of the intervention. As an example of a possible strategy for obtaining evidence of the effect of the proposed strategies, the Institute suggests that researchers consider conducting multiple baseline studies, such as those used in special education research to evaluate the effects of interventions for low-incidence disabilities. Such methods are essentially interrupted time series designs with replication. Application of a multiple baseline design would require the researcher to consider each school to be a "single case."³ A well-implemented multiple baseline study that results in similar positive impacts for turning around chronically low-performing schools for a number of such schools could provide evidence of the efficacy of the intervention.

³ For an example of the application of a multiple-baseline approach to the evaluation of a classroom intervention, see Benedict, E.A., Horner, R. H., & Squires, J. K (2007). Assessment and implementation of Positive Behavior Support in preschools. *Topics in Early Childhood Special Education*, 27(3), 174–192. Please note, however, that in this study analysis was by visual inspection. The Institute encourages researchers to incorporate statistical analyses in their single-case designs.

Applicants proposing to use multiple baseline designs to test the effect of the intervention on desired proximal (e.g., time on instruction in core academic content) and distal (e.g., overall school achievement in reading and mathematics) outcomes must provide a detailed research design. Applicants would need to describe the proposed measures, provide technical information on the reliability and validity of the measures, detail procedures for collecting observations, and where applicable, specify procedures for determining inter-observer reliability or agreement (e.g., Kappa) associated with the proposed measures and monitoring inter-observer reliability during the study and over both baseline and treatment conditions. In strong applications, applicants would use the proposed theory of change as a framework and make clear how the proposed measures link to the proximal and distal outcomes. In strong applications, applicants would detail procedures for measuring the fidelity of the implementation of the intervention. Applicants must include a detailed description of their data analysis plan.

Applicants may propose other experimental or quasi-experimental designs to test the effect of the intervention or to demonstrate that the intervention is associated with positive changes in the operation and functioning of the school that are consistent with the intervention's theory of change and with positive changes in student outcomes. Regardless of the approach, applicants must provide a detailed research design and data analysis plan and provide a rationale explaining how the research design allows for the demonstration of an association between implementation of the intervention and the desired outcomes or a causal test of the impact of the intervention on the desired outcomes.

6. GENERAL REQUIREMENTS OF THE PROPOSED RESEARCH

A. Basic Requirements

a. Applying to multiple competitions or topics

Applicants may submit proposals to more than one of the Institute's FY 2009 competitions or topics. In addition, within a particular competition or topic, applicants may submit multiple proposals. However, applicants may submit a given proposal only once (i.e., applicants may not submit the same proposal or very similar proposals to multiple topics or to multiple goals in the same topic or to multiple competitions). If the Institute determines prior to panel review that an applicant has submitted the same proposal or very similar proposals to multiple topics within or across competitions and the proposal is judged to be compliant and responsive to the submission rules and requirements described in the Request for Applications, the Institute will select one version of the application to be reviewed by the appropriate scientific review panel. If the Institute determines after panel review that an applicant has submitted the same proposal or very similar proposals to multiple topics within or across competitions and if the proposal is determined to be worthy of funding, the Institute will select the topic under which the proposal will be funded.

b. Applying to a particular topic

To submit an application to the Institute's Education Research and Development Center grant program, applicants must choose the specific topic under which they are applying. Each topic has specific requirements. The Institute strongly encourages potential applicants to contact the relevant program officer listed in Section 21 if they have any questions regarding the appropriateness of a particular project for submission under a specific Center topic.

For the FY 2009 Center competition, applicants must apply *either* under Topic One (National Center on Teacher Effectiveness) *or* Topic Two (National Center on Rural Education) *or* Topic Three (National Center on Turning Around Chronically Low-performing Schools).

B. Requirements for the Focused Program of Research

The Institute intends for the work of the Centers to include a focused program of research that ideally will result in solutions or answers to specific education problems at the end of 5 years. The Institute

expects the *focused program of research* to comprise about 50 to 75 percent of a Center's activities depending on the cost and effort required to carry out the focused program of research.

For the FY 2009 Center competition, the Institute expects applicants to propose a focused program of research that consists of a set of tightly linked studies that build on each other and together result in the development and/or evaluation of education interventions or measurement tools as specified under the Specific Requirements sections for each Center topic (Part III, Section 5A for National Center on Teacher Effectiveness; Part III, Section 5B for National Center on Rural Education; Part III, Section 5C for National Center on Turning Around Chronically Low-performing Schools). The Institute strongly discourages applications that propose a model in which multiple investigators each conduct separate studies that are only loosely coordinated around a given topic.

Although the Centers have much broader functions than conducting a focused program of research, the research program is the only portion of the activities of a Center that can be well-specified in advance, and thus can provide a fair basis for comparing and evaluating applications for funding. Consequently, the majority of the application should be a detailed description of the focused program of research.

a. Significance of the focused program of research

Applicants must first specify the topic to which they are applying and the specific focus of the Center. The rationale for the significance of the focused program of research must address specific requirements detailed in Part III, Section 5A for National Center on Teacher Effectiveness or in Part III, Section 5B for National Center on Rural Education or in Part III, Section 5C for National Center on Turning Around Chronically Low-performing Schools.

b. Research plan for the focused program of research

The most important consideration in the competitive review of proposals will be the applicant's articulation of the focused program of research. Applications must include well-specified objectives, a detailed research methods and data analysis plan, a plan for coordinating the work of the cooperating scientists, a timetable for accomplishing the research, and the specific outcomes of the program of research.

The methodological requirements for applications to the National Center on Teacher Effectiveness are specified in Part III, Section 5A.c.

The methodological requirements for applications to the National Center on Rural Education are specified in Part III, Section 5B.c.

The methodological requirements for applications to the National Center on Turning Around Chronically Low-performing Schools are specified in Part III, Section 5C.c.

c. Timeline

Along with the description of the focused program of research, applicants should include a clear timeline for the activities in their focused program of research. (The timeline may be included in Appendix A.)

C. Requirements for Supplemental Research Projects

As part of the Center activities, applicants are expected to conduct smaller research projects that speak to other issues that are important within the context of the broad topic of the Center. The Institute intends to work cooperatively with Center grantees to select and design supplemental studies as needed to respond to pressing policy and practice needs within the topic covered by the Center. In the past, typical supplemental studies have involved secondary analyses of longitudinal data sets. **Note, the Institute does not expect applicants to provide highly detailed research plans for these studies in the application. The Institute expects applicants to devote no more than two or three paragraphs to the description of each supplemental study.** The applicant should, however,

document capacity to conduct such studies (e.g., knowledge of the field and research experience of key personnel) and provide two examples of supplemental studies the applicant believes might be useful to undertake, including a short rationale explaining the need for the proposed study and a short description of the type of research approach that would be used. Although this section of the application does not need to be long, applicants should bear in mind that capacity for conducting quick response research projects will carry weight in the scoring of the application.

D. Requirements for National Leadership Activities

As part of the Center activities, applicants are expected to provide national leadership within the Center's topic area by developing position papers, hosting meetings, and engaging in dialogue with researchers and practitioners in order to identify promising areas of research, development, and dissemination for the field. The Institute intends to work cooperatively with Center grantees in the development and planning of such activities. In that context, the Institute does not expect applicants to provide highly detailed plans for the leadership activities. It is sufficient to provide information on why the proposed Center staff are qualified to fulfill this leadership role if awarded a Center, as well as two examples of the types of activities the applicant believes might be useful to undertake, including a short rationale justifying the need for the proposed activity and a description of the applicant's capacity for conducting such projects. Although this section of the application does not need to be long, applicants should bear in mind that capacity for carrying out leadership and national activities will carry weight in the scoring of the application.

E. Management and Institutional Resources

The Institute anticipates that the focused program of research, as well as the supplemental studies, and national leadership activities will require the coordination of multiple scientists and other partners. Applicants should describe plans and procedures for the overall management of the Center. These plans should include details of procedures for coordinating with schools and districts or other education delivery settings involved in the projects of the Center.

Competitive applicants will have access to institutional resources that adequately support research activities and access to schools or other education delivery settings in which to conduct the research.

When the proposed focus program of research includes conducting research activities in schools, applicants should document that they have the capacity and experience to obtain such cooperation and to describe the steps they have taken or will take to obtain it. When the plans for the **first year** of grant activities include substantial work to be conducted in schools or other education delivery settings, strong applications will include documentation of the availability and cooperation of the schools or other education delivery settings that will be required to carry out that work via a letter of support from the education organization(s).

An applicant may involve developers or distributors (*including for-profit entities*) of the intervention in the project, from having the developers as full partners in its proposal to using off-the-shelf teacher training materials without involvement of the developer or publisher. However, involvement of the developer or distributor must not jeopardize the objectivity of the evaluation. Strong applications will carefully describe the role, if any, of the developer/distributor in the intervention. Developers and distributors may not provide any training or support for the implementation that is not normally available to users of the intervention. Applicants should describe how objectivity in the evaluation would be maintained. For example, strong applications will assign responsibility for random assignment to condition and data analyses to individuals who are *not* part of the organization that developed or distributes the intervention.

F. Personnel

Competitive applicants will have leadership and staff that collectively demonstrate (a) expertise in the content areas that are the focus of the proposed Center, (b) the methodological expertise to carry out

the proposed projects, (c) sufficient experience working with education delivery settings to carry out the proposed projects, and (d) experience that is relevant to national leadership activities.

PART IV GENERAL SUBMISSION AND REVIEW INFORMATION

7. MECHANISM OF SUPPORT

The Institute intends to award cooperative agreements pursuant to this request for applications. The maximum award length is five years.

8. FUNDING AVAILABLE

Typical awards will be in the range of \$1,000,000 to \$2,000,000 (total cost = direct + indirect) per year for 5 years. Larger awards will be considered; the size of the award depends on the scope of the activities.

The Institute expects the *focused program of research* to comprise about 50 to 75 percent of a Center's activities depending on the cost and effort required to carry out the focused program of research, with the remainder of the budget devoted to supplemental studies, leadership activities, and any administrative activities not included in the focused program of research.

Although the plans of the Institute include the Education Research and Development Center program, awards pursuant to this request for applications are contingent upon the availability of funds and the receipt of a sufficient number of meritorious applications. The Institute anticipates funding at least one Center under each goal. However, because the Institute is committed to funding only high quality work, the Institute will make an award for a particular Center only if at least one application for that Center is deemed meritorious under peer review.

9. ELIGIBLE APPLICANTS

Applicants that have the ability and capacity to conduct scientifically valid research are eligible to apply. Eligible applicants include, but are not limited to, non-profit and for-profit organizations and public and private agencies and institutions, such as colleges and universities.

10. DESIGNATION OF PRINCIPAL INVESTIGATOR

The applicant institution is responsible for identifying the Principal Investigator. The Principal Investigator is the individual who has the authority and responsibility for the proper conduct of the research, including the appropriate use of federal funds and the submission of required scientific progress reports. An applicant institution may elect to designate more than one Principal Investigator. In so doing, the applicant institution identifies them as individuals **who share the authority and responsibility** for leading and directing the research Center intellectually and logistically. All Principal Investigators will be listed on any grant award notification. However, institutions applying for funding must designate a single point of contact for the Center. The role of this person is primarily for communication purposes on the scientific and related budgetary aspects of the Center and should be listed as the Principal Investigator. All other Principal Investigators should be listed as Co-Principal Investigators.

11. SPECIAL REQUIREMENTS

Research supported through this program must be relevant to U.S. schools.

Recipients of awards are expected to publish or otherwise make publicly available the results of the work supported through this program. The Institute asks IES-funded investigators to submit voluntarily to the Educational Resources Information Center (ERIC) an electronic version of the author's final manuscript upon acceptance for publication in a peer-reviewed journal, resulting from research supported, in whole or in part, by the Institute. The author's final manuscript is defined as the final version accepted for journal publication, and includes all modifications from the peer review process.

Applicants must budget for one meeting each year in Washington, DC, with other grantees and Institute staff for a duration of up to three days of meetings. At least one Center representative must attend the three-day meeting.

The Institute anticipates that the majority of the research funded under this announcement will be conducted in field settings. Hence, the applicant is reminded to apply its negotiated off-campus indirect cost rate, as directed by the terms of the applicant's negotiated agreement.

Research applicants may collaborate with, or be, for-profit entities that develop, distribute, or otherwise market products or services that can be used as interventions or components of interventions in the proposed research activities. Involvement of the developer or distributor must not jeopardize the objectivity of the evaluation.

The Institute strongly advises applicants to establish a written agreement among all key collaborators and their institutions (e.g., principal and co-principal investigators) regarding roles, responsibilities, access to data, publication rights, and decision-making procedures within three months of receipt of an award.

Through the terms of the cooperative agreement, grantees will work with the Institute to plan activities related to supplemental research and leadership activities.

12. LETTER OF INTENT

A. Content

A letter indicating an applicant's intent to submit an application is optional, but encouraged, for each application. The letter of intent form must be submitted electronically by the date listed in this document, using the instructions provided at: <https://ies.constellagroup.com>.

The letter of intent should include:

- Descriptive title;
- Center topic to which the applicant intends to submit a proposal;
- Brief description of the proposed focused program of research;
- Name, institutional affiliation, address, telephone number and e-mail address of the principal investigator(s);
- Name and institutional affiliation of any key Center personnel, including collaborators and contractors;
- Duration of the proposed project;
- Estimated budget request for each year; and
- Total budget request.

B. Format and Page Limitation

The project description should be single spaced and should not exceed one page (about 3,500 characters). Although the letter of intent is optional, is not binding, and does not enter into the review of a subsequent application, the information that it contains allows Institute staff to estimate the potential workload to plan the review.

13. APPLICATION PACKAGE AVAILABLE ON GRANTS.GOV

A. Date Application Package is Available on Grants.gov

The application form approved for use in the competitions specified in this RFA is the government-wide SF424 Research and Related (R&R) Form (OMB Number 4040-0001).

Application forms and instructions for the electronic submission of applications will be available for the programs of research listed in this RFA from <http://www.Grants.gov/>

by: August 4, 2008

B. Download Correct Application Package

a. CFDA number

Applicants must first search by the CFDA number for each IES Request for Applications without the alpha suffix to obtain the correct downloadable Application Instructions and Application Package. For the Education Research and Development Center Request for Applications, applicants must search on: **CFDA 84.305**.

b. Education Research and Development Center Application Instructions and Application Package

The Grants.gov search on CFDA 84.305 will yield more than one application package. For the Education Research and Development Center Request for Applications, applicants must download the package marked:

CFDA 84-305C2009 Education Research and Development Center Application Instructions and Application Package.

In order for the application to be submitted to the correct grant competition, applicants must download the Application Package that is designated for this grant competition. Using a different Application Package, even if that package is for an Institute competition, will result in the application being submitted to the wrong competition.

14. SUBMISSION PROCESS AND DEADLINE

Applications must be submitted **electronically by 4:30 p.m., Washington, DC time** on the application deadline date, using the ED standard forms and the instructions provided on the Grants.gov website.

Potential applicants should check this site for information about the electronic submission procedures that must be followed and the software that will be required.

15. APPLICATION CONTENT AND FORMATTING REQUIREMENTS

A. Overview

All of the instructions and requirements regarding (a) submission of the application, (b) application page limits, (c) acceptable format, and (d) necessary attachments (.PDF files) will be provided in the **Application Instructions** document for this competition that can be found under the "For Applicants -- Apply for Grants" link of Grants.gov. Also, all of the required forms will be provided in the **Application Package** that accompanies the Application Instructions.

In this section, the Institute provides instructions regarding the content of the (a) Center summary/abstract, (b) Center program narrative, (c) bibliography and references cited, (d) biographical sketches of senior/key personnel, (e) narrative budget justification (f) subaward budget, (g) Appendix A, (h) Appendix B, (i) human subjects narrative, and (j) additional forms. The instructions below will be reiterated in the Application Instructions document for this competition, which will be available, as noted above, under the "For Applicants -- Apply for Grants" link of Grants.gov.

B. General Format Requirements

Margin, format, and font size requirements apply to the Center summary, Center program narrative, bibliography, biographical sketches, narrative budget justification, Appendix A, and Appendix B. To ensure that the text is easy for reviewers to read and that all applicants have the same amount of available space in which to describe their projects, applicants must adhere to the type size and format specifications for the entire narrative including footnotes. **It is very important that applicants review carefully the "Application Format Requirements" outlined in the *Fiscal Year 2009***

Application Package Highlights, which will be part of the application instructions, to be available on <http://www.Grants.gov>.

a. Page and margin specifications

For the purposes of applications submitted under this RFA, a “page” is 8.5 in. x 11 in., on one side only, with 1 inch margins at the top, bottom, and both sides.

b. Spacing

Text must be single spaced in the narrative.

c. Type size (font size)

Type must conform to the following three requirements:

- The height of the letters must not be smaller than a type size of 12 point.
- Type density, including characters and spaces, must be no more than 15 characters per inch (cpi). For proportional spacing, the average for any representative section of text must not exceed 15 cpi.
- Type size must yield no more than 6 lines of type within a vertical inch.

Applicants should check the type size using a standard device for measuring type size, rather than relying on the font selected for a particular word processing/printer combination. The type size used must conform to all three requirements. Small type size makes it difficult for reviewers to read the application; consequently, the use of small type will be grounds for the Institute to return the application without peer review.

Adherence to type size and line spacing requirements is necessary so that no applicant will have an unfair advantage, by using small type or by providing more text in their applications. **Note, these requirements apply to the PDF file as submitted.** As a practical matter, applicants who use a 12-point Times New Roman font without compressing, kerning, condensing, or other alterations typically meet these requirements.

Figures, charts, tables, and figure legends may be in a smaller type size but must be readily legible.

d. Graphs, diagrams, tables

Applicants must use only black and white in graphs, diagrams, tables, and charts. The application must contain only material that reproduces well when photocopied in black and white.

C. Center Summary/Abstract

a. Submission

The Center summary/abstract will be submitted as a .PDF attachment.

b. Page limitations and format requirements

The Center summary/abstract is limited to 1 single-spaced page and must adhere to the margin, format, and font size requirements above.

c. Content

The Center summary/abstract should include:

- (1) Title of the proposed Center;
- (2) The topic under which the applicant is applying;
- (3) Brief description of the focused program of research; and
- (4) A list of the key Center personnel

D. Center Program Narrative

a. Submission

The Center program narrative will be submitted as a .PDF attachment.

b. Page limitations and format requirements

The Center program narrative is limited to **35 single-spaced pages** for all applicants. The 35-page limit for the Center program narrative does not include any of the SF 424 forms, the one-page summary/abstract, the appendices, research on human subjects information, bibliography and references cited, biographical sketches of senior/key personnel, narrative budget justification, subaward budget information or certifications and assurances.

Reviewers are able to conduct the highest quality review when applications are concise and easy to read, with pages numbered consecutively.

c. Format for citing references in text

To ensure that all applicants have the same amount of available space in which to describe their Center in the Center program narrative, applicants should use the author-date style of citation (e.g., James, 2004), such as that described in the *Publication Manual of the American Psychological Association, 5th Edition* (American Psychological Association, 2001).

d. Content

By incorporating the requirements outlined in Part III Requirements of the Proposed Research, the *Center program narrative* provides the majority of the information on which reviewers will evaluate the proposal.

The Center program narrative must include six sections: (a) Significance of the Focused Program of Research, (b) Research Plan for the Focused Program of Research, (c) Supplemental Research Projects (d) National Leadership Activities (e) Management and Institutional Resources, and (f) Personnel. Information to be included in each of these sections is detailed in Part III Requirements of the Proposed Research.

E. Bibliography and References Cited

a. Submission

The section will be submitted as a .PDF attachment.

b. Page limitations and format requirements

There are no limitations to the number of pages in the bibliography. The bibliography must adhere to the margin, format, and font size requirements described in section 15.B. General Format Requirements.

c. Content

Applicants should include complete citations, including the names of all authors (in the same sequence in which they appear in the publication), titles (e.g., article and journal, chapter and book, book), page numbers, and year of publication for literature cited in the research narrative.

F. Biographical Sketches of Senior/Key Personnel

a. Submission

The section will be submitted as a .PDF attachment.

b. Page limitations and format requirements

A biographical sketch should be provided for the principal investigator and other key personnel. **Each biographical sketch (e.g., abbreviated curriculum vitae) is limited to 4 pages.** The biographical sketch must adhere to the margin, format, and font size requirements described in section 15.B. General Format Requirements.

c. Content

Each biographical sketch should include information sufficient to demonstrate that personnel possess training and expertise commensurate with their duties (e.g., publications, grants, relevant research experience) and have adequate time devoted to the Center to carry out their duties. Applicants are reminded to review information in section 10 Designation of Principal Investigator.

d. List of current and pending grants

Applicants should provide a list of all current and pending grants along with the proportion of the individual's time allocated to each project for the principal investigator and other key personnel for the Center. This information is to be provided as a table attached to the biographical sketch (i.e., a fifth page).

G. Narrative Budget Justification

a. Submission

The section will be submitted as a .PDF attachment.

b. Page limitations and format requirements

There are no page limitations for the narrative budget justification. The narrative budget justification must adhere to the margin, format, and font size requirements described in section 15.B. General Format Requirements.

c. Content

The narrative budget justification should provide sufficient detail to allow reviewers to judge whether reasonable costs have been attributed to the Center. The budget justification should correspond to the itemized breakdown of Center costs that is provided in the Research & Related Budget (SF 424) Sections A & B; C, D, & E; and F-K. It should include the time commitments and brief descriptions of the responsibilities of key personnel. For consultants, the narrative should include the number of days of anticipated consultation, the expected rate of compensation, travel, per diem, and other related costs. A justification for equipment purchase, supplies, travel and other related Center costs should also be provided in the budget narrative for each Center year outlined in the Research & Related Budget (SF 424).

For those applications that include a subaward(s) for work conducted at collaborating institutions, the narrative should also provide the details about the subaward(s). Include the actual subaward budgets as a separate attachment. (See below "Subaward Budget".)

d. Indirect cost rate

Applicants should use their institution's federal indirect cost rate and use the off-campus indirect cost rate where appropriate (see instructions under section 11 Special Requirements).

H. Subaward Budget

a. Submission

The section will be submitted as a .PDF attachment.

b. Page limitations and format requirements

To allow applicants to enter subaward budget information in accordance with a prescribed format (R&R Subaward Budget), an Excel spreadsheet will be provided at:

<http://ies.ed.gov/funding/>

Applicants will download and complete the spreadsheet in Excel format, convert it to a .PDF file, and then upload it as an attachment. There are no page limitations to the spreadsheet.

c. Content

For applications that include a subaward(s) for work conducted at collaborating institutions, applicants must submit an itemized budget spreadsheet for each subaward for each project year. As noted above in section 15.G, the details of the subaward costs should be included in the Narrative Budget Justification.

I. Appendix A

a. Submission

Appendix A should be included at the end of the Project Narrative and submitted as part of the same .PDF attachment.

b. Page limitations and format requirements

The Appendix A is limited to 15 pages. It must adhere to the margin, format, and font size requirements described in section 15.B. General Format Requirements.

c. Content

(i) Purpose.

The purpose of Appendix A is to allow the applicant to include any figures, charts, or tables that supplement the research text, examples of measures to be used in the project, and letters of agreement from partners (e.g., schools) and consultants. These are the only materials that may be included in Appendix A; all other materials will be removed prior to review of the application. Narrative text related to any aspect of the Center (e.g., descriptions of the proposed sample, the design of the study, or previous research conducted by the applicant) must be included in the research narrative.

(ii) Letters of agreement.

Letters of agreement should include enough information to make it clear that the author of the letter understands the nature of the commitment of time, space, and resources to the research Center that will be required if the application is funded. The Institute recognizes that some applicants may have more letters of agreement than will be accommodated by the 15-page limit. In such instances, applicants should include the most important letters of agreement and may list the letters of agreement that are not included in the application due to page limitations.

J. Appendix B (Optional)

a. Submission

If applicable, Appendix B should be included at the end of the Center program narrative, following Appendix A, and submitted as part of the same .PDF attachment.

b. Page limitations and format requirements

The Appendix B is limited to 10 pages. The Appendix B must adhere to the margin, format, and font size requirements described in section 15.B. General Format Requirements.

c. Content

The purpose of Appendix B is to allow applicants to include examples of curriculum material, computer screens, test items, or other materials used in the intervention. These are the only materials that may be included in Appendix B; all other materials will be removed prior to review of the application. Narrative text related to the intervention (e.g., descriptions of research that supports the use of the intervention, the theoretical rationale for the intervention, or details regarding the implementation or use of the intervention) must be included in the 35-page research narrative.

K. Research on Human Subjects

a. Submission

This section will be submitted as a .PDF attachment.

b. Requirements

If an applicant proposes research activities involving human subjects at any time during the proposed project period, either at the applicant organization or at any other performance site or collaborating institution, then the applicant must provide either a human subjects "exempt research narrative" or a "nonexempt research narrative" and upload this narrative as instructed in the ***Fiscal Year 2009 Application Package Highlights***. See the U.S. Department of Education's web page for detailed information about the protection of human subjects in research:
<http://www.ed.gov/policy/fund/quid/humansub/overview.html>.

L. Additional Forms

Please note that applicants selected for funding will be required to submit the following certifications and assurances before a grant is issued:

- (1) SF 424B-Assurances-Non-Construction Programs
- (2) Grants.gov Lobbying Form
- (3) SF-LLL (if applicable) - Disclosure of Lobbying Activities
- (4) Protection of Human Research Subjects assurance and/or Institutional Review Board certification, as appropriate*

*Refer to the Fiscal Year 2009 Application Package for New Grants, available on <http://www.Grants.gov> by August 4, 2008, which details the information about the Human Subjects narrative, if applicable, that is required to be submitted with the application.

16. APPLICATION PROCESSING

Applications must be received by **4:30 pm, Washington, D.C. time** on the application deadline date listed in the heading of this request for applications. Upon receipt, each application will be reviewed for completeness and for responsiveness to this request for applications. Applications that do not address specific requirements of this request will be returned to the applicants without further consideration.

17. PEER REVIEW PROCESS

Applications that are compliant and responsive to this request will be evaluated for scientific and technical merit. Reviews will be conducted in accordance with the review criteria stated below by a panel of scientists who have substantive and methodological expertise appropriate to the program of research and request for applications.

Each application will be assigned to one of the Institute's scientific review panels. At least three primary reviewers will complete written evaluations of the application, identifying strengths and weaknesses related to each of the review criteria. Primary reviewers will independently assign a score for each criterion, as well as an overall score, for each application they review. Based on the overall scores assigned by primary reviewers, an average overall score for each application will be calculated and a preliminary rank order of applications will be prepared before the full peer review panel convenes to complete the review of applications.

The full panel will consider and score only those applications deemed to be the most competitive and to have the highest merit, as reflected by the preliminary rank order. A panel member may nominate for consideration by the full panel any proposal that he or she believes merits full panel review but would not have been included in the full panel meeting based on its preliminary rank order.

18. REVIEW CRITERIA FOR SCIENTIFIC MERIT

The purpose of Institute-supported research is to contribute to the solution of education problems and to provide reliable information about the education practices that support learning and improve academic

achievement and access to education for all students. Reviewers for all applications will be expected to assess the following aspects of an application in order to judge the likelihood that the proposed research will have a substantial impact on the pursuit of that goal. Information pertinent to each of these criteria is also described in Part III Requirements of the Proposed Research.

A. Significance of the Focused Program of Research

Does the applicant provide a compelling rationale for the significance of the project as defined in the sections on the significance of the focused program of research?

B. Research Plan for the Focused Program of Research

Does the applicant meet the requirements described in the sections detailing the methodological requirements for the focused program of research?

C. Plans for Other Center Activities

Does the content of the examples of proposed supplemental studies and leadership activities and the description of the applicant's capacity to conduct such projects demonstrate that the applicant has the ideas, experience, and capability to successfully carry-out such projects in cooperation with the Institute?

D. Management and Institutional Resources

Do the plans and procedures for the overall management of the Center indicate that the applicant has the capacity to efficiently and successfully complete the proposed research, dissemination, and leadership activities? Does the applicant have the facilities, equipment, supplies, and other resources required to support the proposed activities? Do the commitments of each partner show support for the implementation and success of the proposed Center activities?

E. Personnel

Does the description of the personnel make it apparent that the principal investigator, project director, and other key personnel possess the training and experience and will commit sufficient time to competently implement the proposed research?

19. RECEIPT AND START DATE SCHEDULE

A. Letter of Intent Receipt Date:	July 10, 2008
B. Application Deadline Date:	October 2, 2008
C. Earliest Anticipated Start Date:	July 1, 2009

20. AWARD DECISIONS

The following will be considered in making award decisions:

- Scientific merit as determined by peer review
- Responsiveness to the requirements of this request
- Performance and use of funds under a previous Federal award
- Contribution to the overall program of research described in this request
- Availability of funds

21. INQUIRIES MAY BE SENT TO:

- A. National Center on Teacher Effectiveness
Dr. Carol O'Donnell
Institute of Education Sciences
555 New Jersey Avenue, NW
Washington, DC 20208

Email: Carol.ODonnell@ed.gov
Telephone: (202) 208-3749

- B. National Center on Rural Education
Dr. Caroline Ebanks
Institute of Education Sciences
555 New Jersey Avenue, NW
Washington, DC 20208

Email: Caroline.Ebanks@ed.gov
Telephone: (202) 219-1410

- C. National Center on Turning Around Chronically Low-performing Schools
Dr. Allen Ruby
Institute of Education Sciences
555 New Jersey Avenue, NW
Washington, DC 20208

Email: Allen.Ruby@ed.gov
Telephone: (202) 219-1591

22. PROGRAM AUTHORITY

20 U.S.C. 9501 *et seq.*, the "Education Sciences Reform Act of 2002," Title I of Public Law 107-279, November 5, 2002. This program is not subject to the intergovernmental review requirements of Executive Order 12372.

23. APPLICABLE REGULATIONS

The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 74, 77, 80, 81, 82, 84, 85, 86 (part 86 applies only to institutions of higher education), 97, 98, and 99. In addition 34 CFR part 75 is applicable, except for the provisions in 34 CFR 75.100, 75.101(b), 75.102, 75.103, 75.105, 75.109(a), 75.200, 75.201, 75.209, 75.210, 75.211, 75.217, 75.219, 75.220, 75.221, 75.222, and 75.230.

24. REFERENCES

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Rivkin, S., Hanushek, E. A., & Kain, J. F. (2005). Teachers, schools and academic achievement. *Econometrica*, 73 (2), 417-458.

Johnson, J., & Strange, M. (2007). *Why Rural Matters 2007: The Realities of Rural Education Growth*. Downloaded on March 14, 2008, from http://www.ruraledu.org/site/c.beJMIZOCiRH/b.3508815/k.C03/Why_Rural_Matters_2007/apps/s/link.asp.

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