

# STATISTICAL AND RESEARCH METHODOLOGY IN EDUCATION

CFDA NUMBER: 84.305D

RELEASE DATE: February 29, 2008

REQUEST FOR APPLICATIONS

INSTITUTE OF EDUCATION SCIENCES

<http://ies.ed.gov>

APPLICATION DEADLINE DATE:

June 26, 2008

Section	Page
<b>PART I GENERAL OVERVIEW</b>	<b>4</b>
1. Request for Applications	4
2. Overview of the Institute's Research Programs	4
A. Outcomes	5
B. Conditions	5
a. Curriculum and instruction	5
b. Quality of the education workforce	5
c. Administration, systems, and policy	5
C. Grade Levels	5
D. Research Goals	5
Table 1: IES FY 2009 Research and Training Grant Topics	7
<b>PART II STATISTICAL AND RESEARCH METHODOLOGY IN EDUCATION</b>	<b>8</b>
3. Purpose	8
4. Background	8
<b>PART III REQUIREMENTS OF THE PROPOSED RESEARCH</b>	<b>10</b>
5. General Requirements of the Proposed Research	10
A. Basic Requirements	10
a. Applying to multiple competitions or topics	10
B. Requirements for the proposed project	10
a. Significance of the project	10
b. Methodological requirements	10
(i) Research questions	10
(ii) Research plan	10
(iii) Access to data	11
(iv) Data analysis	11
c. Personnel	11
d. Resources	11
e. Awards	11
<b>PART IV GENERAL SUBMISSION AND REVIEW INFORMATION</b>	<b>12</b>
6. Mechanism of Support	12
7. Funding Available	12
8. Eligible Applicants	12
9. Designation of Principal Investigator	12
10. Special Requirements	12

11. Letter of Intent	13
A. Content	13
B. Format and page limitation	13
12. Application Package Available on Grants.gov	13
A. Date application package is available on Grants.gov	13
B. Download correct application package	13
a. CFDA number	13
b. Statistical and Research Methodology in Education Application Instructions and Application Package	14
13. Submission Process and Deadline	14
14. Application Content and Formatting Requirements	14
A. Overview	14
B. General format requirements	14
a. Page and margin specifications	14
b. Spacing	14
c. Type size (font size)	15
d. Graphs, diagrams, tables	15
C. Project summary/abstract	15
a. Submission	15
b. Page limitations and format requirements	15
c. Content	15
D. Project narrative	15
a. Submission	15
b. Page limitations and format requirements	15
c. Format for citing references in text	16
d. Content	16
E. Bibliography and references cited	16
a. Submission	16
b. Page limitations and format requirements	16
c. Content	16
F. Biographical sketches of senior/key personnel	16
a. Submission	16
b. Page limitations and format requirements	16
c. Content	16
d. List of current and pending grants	17
G. Narrative budget justification	17
a. Submission	17
b. Page limitations and format requirements	17
c. Content	17
d. Indirect cost rate	17
H. Subaward budget	17
a. Submission	17
b. Page limitations and format requirements	17
c. Content	17
I. Appendix A	18
a. Submission	18
b. Page limitations and format requirements	18
c. Content	18
(i) Purpose	18
(ii) Letters of agreement	18
J. Appendix B (optional)	18
a. Submission	18
b. Page limitations and format requirements	18

c. Content	18
K. Research on human subjects	18
a. Submission	18
b. Requirements	18
L. Additional forms	19
15. Application Processing	19
16. Peer Review Process	19
17. Review Criteria for Scientific Merit	19
A. Significance	20
B. Research plan	20
C. Personnel	20
D. Resources	20
18. Receipt and Start Date Schedule	20
A. Letter of intent receipt date	20
B. Application deadline date	20
C. Earliest anticipated start date	20
19. Award Decisions	20
20. Inquiries May Be Sent To	20
21. Program Authority	20
22. Applicable Regulations	21
23. References	21

## **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 Statistical and Research Methodology in Education grant program. For the FY 2009 competition, the Institute will consider only applications that meet the requirements outlined below under Part II Statistical and Research Methodology in Education 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 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 post-secondary education. At the post-secondary 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 post-secondary 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) pre-kindergarten and kindergarten, (b) elementary school, (c) middle school, (d) high school, (e) post-secondary 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 Achieving 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 STATISTICAL AND RESEARCH METHODOLOGY IN EDUCATION**

### **3. PURPOSE**

Through the grant program on Statistical and Research Methodology in Education, the Institute will provide support for research to advance education research methodologies and statistical analyses. The long-term outcome of this research program will be a wide-range of methodological and statistical tools that will enable education scientists to conduct rigorous education research.

### **4. BACKGROUND**

The mission of the Institute, broadly speaking, is to provide rigorous evidence on which to ground education practice and policy and to encourage its use. Critical to achieving this mission is providing education scientists with the tools they need to conduct rigorous applied research. To that end, the Institute is launching the program on Statistical and Research Methodology in Education (Methods) to provide support for the development of new statistical tools and research methodologies in education.

The Institute invites applications to develop new approaches or to extend and improve existing methods in ways that would enhance the ability of researchers to conduct the types of research that the Institute funds. For information on the types of research that the Institute funds, please see the Institute's research funding announcements at <http://ies.ed.gov/funding>. In this section, the Institute provides a few examples of areas in which research is needed to improve the statistical and methodological tools available to education scientists. However, the Institute is interested in a wide range of topics and applicants are not limited to the examples described below.

The Institute encourages applications to improve the design and analysis of the evaluation of education interventions (field experiments and quasi-experiments) to increase the generalizability of studies. Often times, evaluations of education interventions are conducted on samples that may not be truly representative of larger populations of policy interest. In some cases, a convenience sample (e.g., schools willing to participate in a study) may be used. In others cases, random samples may be taken from a small geographical area (e.g., schools within a district), and consequently the results may not generalize to larger geographical areas (e.g., all districts within a state). The Institute is interested in proposals to understand how results from these two types of samples can be generalized to broader populations. Although there has been some work in education on developing weights, based on surveys or other sources of information on the population, to make the estimate of the treatment effect more likely to reflect the effect in the general population, relatively little research has been conducted to address this problem.

The Institute is also interested in applications to identify ways to increase the power of studies to detect effects. Education evaluations can be expensive when schools are the unit of analysis. How can researchers increase statistical power without having to add additional sites? Although some work has examined the use of covariates and blocking to increase power (Bloom, Richburg-Hayes, & Black, 2007; Raudenbush, Martinez, & Spybrook, 2007), more research is needed.

Estimating treatment effects is a technical issue but interpreting the size of the effect is a judgment. Our ability to understand or provide a context for interpreting the size of an effect is limited. All too often, researchers cite Cohen's (1988) rule of thumb regarding the size of effects. Ideally, effects would be compared to other actual results or to hypothetically desired results, but much more research is needed to create a context for how we can determine if an effect is a substantial improvement or a trivial one. Recent work by Bloom and colleagues (2006) showing that the size of annual gains on nationally normed reading and mathematics tests diminishes as students enter middle and high school is an example of this type of project.

In recent years, there has been increasing interest in applying value added methods to a variety of education issues. Results of value added methods, however, are sensitive to choices regarding design and analytic models. The Institute invites proposals to enable the field to gain a better understanding of value added methods, such as the consequences of design and analysis choices and the number of observations that are needed and how this might vary by age of students or dependent variable.

Mandated by Congress, the National Assessment of Educational Progress (NAEP) surveys the education achievement of students in the United States, and monitors their progress over time. Widely known as the "Nation's Report Card," NAEP has been collecting data to provide educators and policymakers with valid and meaningful information for more than 30 years. The state-of-the-art psychometric and sampling designs used in NAEP present an analytic challenge for many education researchers. The Institute invites proposals to develop tools or methods for making the analysis and interpretation of NAEP data easier for education leaders and decision makers or to permit advanced analytic techniques to be readily applied to NAEP data. The Institute is also interested in the development of methodological and analytic procedures relevant to NAEP. For example, applicants might propose to test alternatives to some component of the NAEP sampling or psychometric model to test analytic solutions to problems that were previously intractable in the context of NAEP.

The Institute will also accept applications to conduct methodological research that piggybacks onto an existing study. For example, a researcher might propose to conduct systematic variation of strategies to enhance recruitment and retention of participants or to test alternative data collection procedures.

As a final example, the Institute also solicits applications to improve or extend statistical analyses of single case designs (e.g., alternating treatments, multiple baseline designs). Single case designs pose many analytical challenges, such as violations of assumptions of traditional inferential statistics (e.g., independence between observations). Applicants may propose research that continues exploration of various approaches (e.g., hierarchical linear modeling, nonparametric tests, measurement of effect size) for analyzing results from individual single case studies as well as analyzing aggregated single case design data. Applicants are also encouraged to consider research that improves the methodological rigor (e.g., use of randomization) within single case designs.

## **PART III REQUIREMENTS OF THE PROPOSED RESEARCH**

### **5. 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. REQUIREMENTS FOR THE PROPOSED PROJECT**

The Institute intends to fund research projects intended to expand and improve the methodological and statistical tools that are available for education researchers conducting research of the type that the Institute funds through its research grant competitions, statistics contracts, and evaluation contracts.

##### **a. Significance of the project**

Applicants must provide a compelling justification for the proposed project. In this justification, applicants should address the practical importance of the proposed work and its potential contribution to the advancement of education and special education research, evaluation, and statistics.

##### **b. Methodological requirements**

###### **(i) Research questions.**

Applicants should pose clear, concise hypotheses or research questions.

###### **(ii) Research plan.**

Applicants should describe their research plan clearly and in sufficient detail for reviewers to understand what the applicants are proposing to undertake and to judge the degree to which following the plan will yield answers to the posed hypotheses or research questions. The research plans should provide evidence that the applicant anticipates and has alternative approaches if difficulties are encountered.

Applicants proposing secondary data analyses should describe clearly the database(s) to be used in the investigation including information on sampling design, sample characteristics, variables to be used, structure of the database, 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 to allow reviewers to 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.

Applicants may propose to collect original data. The applicant should carefully describe the sample (including inclusion/exclusion criteria), measures (including reliability and validity), and procedures proposed for the data collection.

**(iii) Access to data.**

Applicants proposing secondary data analyses must provide sufficient documentation (e.g., letters of agreement) to assure reviewers that they already have access to the data or that access can be obtained and the project can be carried out in a timely fashion.

Applicants may propose to conduct a methodological research study that piggybacks onto an existing study (i.e., requires access to subjects and data from another study). In such cases, the principal investigator of the existing study must be one of the members of the research team applying for the grant to conduct the new project.

**(iv) Data analysis.**

The applicant must include detailed descriptions of data analysis procedures. Data analytic plans must have sufficient detail to permit reviewers to judge the appropriateness and adequacy of the plan for addressing the hypotheses or research questions. Where analyses of existing or new datasets are included, strong applications will include an explicit discussion of how exclusion from testing, or missing data, will be handled within the statistical analyses.

**c. Personnel**

Competitive applicants will have research teams that collectively demonstrate expertise required to conduct the proposed project.

**d. Resources**

Competitive applicants will have access to institutional resources that adequately support research activities and, if applicable, access to datasets, schools, or other resources necessary to conduct the proposed research.

**e. Awards**

Typical awards for Statistical and Research Methods projects are \$75,000 to \$400,000 (total cost = direct + indirect costs) per year for up to 3 years. Larger awards will be considered. The size of the award depends on the scope of the project.

## **PART IV GENERAL SUBMISSION AND REVIEW INFORMATION**

### **6. MECHANISM OF SUPPORT**

The Institute intends to award grants pursuant to this request for applications. The maximum length of the award period is three years.

### **7. FUNDING AVAILABLE**

Typical awards are \$75,000 to \$400,000 (total cost = direct + indirect costs) per year for up to 3 years. Larger awards will be considered. The size of the award depends on the scope of the project.

Although the plans of the Institute include the Methods program described in this announcement, 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 number of projects funded depends upon the number of high quality applications submitted to the competition. The Institute does not have plans to award a specific number of grants under this competition.

### **8. 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.

### **9. 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 project 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 project. The role of this person is primarily for communication purposes on the scientific and related budgetary aspects of the project and should be listed as the Principal Investigator. All other Principal Investigators should be listed as Co-Principal Investigators.

### **10. 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 project representative must attend the three-day meeting.

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.

Applicants may propose studies that piggyback onto an existing study (i.e., that require access to subjects and data from another study). In such cases, the principal investigator of the existing study must be one of the members of the research team applying for the grant to conduct the new project.

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.

## **11. 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;
- Topic and goal that the applicant will address;
- Brief description of the proposed project;
- Name, institutional affiliation, address, telephone number and e-mail address of the principal investigator(s);
- Name and institutional affiliation of any key 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.

## **12. 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 the following web site:

<http://www.Grants.gov/>

by the following date:

April 28, 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 Request for Applications, applicants must search on: **CFDA 84.305**.

**b. Statistical and Research Methodology in Education Application Instructions and Application Package**

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

**CFDA 84-305D2009-1 Statistical and Research Methodology in Education Application Instructions and Application Package.**

An applicant must download the application package designated for the competition and deadline date to which the applicant wishes to apply or the application will be submitted to the wrong competition. Only CFDA 84-305D2009-1 can be used to apply to this competition.

**13. 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.

**14. 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) project summary/abstract, (b) project narrative, (c) bibliography and references cited, (d) biographical sketches of senior/key personnel, (e) narrative budget justification (f) subaward budgets, (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 project summary/abstract, project 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. Project Summary/Abstract**

**a. Submission**

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

**b. Page limitations and format requirements**

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

**c. Content**

The project summary/abstract should include:

- (1) Title of the project;
- (2) Brief description of the purpose of the project;
- (3) If applicable, brief description of the population(s) from which the participants of the study (ies) will be sampled (age groups, race/ethnicity, SES) or dataset to be used;
- (4) Brief description of the primary research method;

Please see the website <http://ies.ed.gov/ncer/projects/> for examples of project summaries/abstracts.

**D. Project Narrative**

**a. Submission**

The project narrative will be submitted as a .PDF attachment.

**b. Page limitations and format requirements**

The project narrative is limited to **25 single-spaced pages** for all applicants. The 25-page limit for the project 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 projects in the project 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 Ed.* (American Psychological Association, 2001).

**d. Content**

Incorporating the requirements outlined under the section on Requirements of the Proposed Research, and the requirements listed under the relevant research grant topic, the *project narrative* provides the majority of the information on which reviewers will evaluate the proposal.

The project narrative must include four sections: (a) Significance, (b) Research Plan, (c) Personnel, and (d) Resources. Information to be included in each of these sections is detailed in Part III: Requirements of the Proposed Research and in Part II: Statistical and Research Methodology in Education.

**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 14.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 14.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 project to carry out their duties. Applicants are reminded to review information in section 9 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 project. 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 14.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 project. The budget justification should correspond to the itemized breakdown of project 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 project costs should also be provided in the budget narrative for each project 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 10 Special Requirements). If less than 75 percent of total indirect costs are based on application of the off-campus rate, the applicant should provide a detailed justification.

## **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, 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**

Appendix A is limited to 15 pages. It must adhere to the margin, format, and font size requirements described in section 14.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. In addition, in the case of a resubmission, the applicant may use up to 3 pages of the appendix to describe the ways in which the revised proposal is responsive to prior reviewer feedback. 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 project (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 project 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 Project Narrative, following Appendix A, and submitted as part of the same .PDF attachment.

### **b. Page limitations and format requirements**

Appendix B is limited to 10 pages. It must adhere to the margin, format, and font size requirements described in section 14.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 pertinent to the proposed project. 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 regarding these materials (e.g., rationale for choosing a particular instrument) must be included in the 25-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/guid/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>, which details the information about the Human Subjects narrative, if applicable, that is required to be submitted with the application.

#### **15. 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.

#### **16. 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 two 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.

#### **17. 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 above in Part III Requirements of the Proposed Research and in Part II Statistical and Research Methodology in Education.

**A. Significance**

Does the applicant provide a compelling rationale for the significance of the project as defined in the Significance of Project section?

**B. Research Plan**

Does the applicant meet the requirements described in the methodological requirements section?

**C. Personnel**

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

**D. Resources**

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 project?

**18. RECEIPT AND START DATE SCHEDULE**

- A. Letter of Intent Receipt Date:** April 28, 2008
- B. Application Deadline Date:** June 26, 2008
- C. Earliest Anticipated Start Date:** March 1, 2009

**19. AWARD DECISIONS**

The following will be considered in making award decisions:

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

**20. INQUIRIES MAY BE SENT TO:**

Dr. Allen Ruby  
Institute of Education Sciences  
555 New Jersey Avenue, NW  
Washington, DC 20208

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

**21. 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.

## **22. 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.

## **23. REFERENCES**

American Psychological Association, Research Office (2001). *Publications Manual of the American Psychological Association (5th ed.)*. Washington, DC: American Psychological Association.

Bloom, H., Hill, C. J., Black, A. R., & Lipsey, M. W. (2006, June 16). Effect sizes in education research: What they are, what they mean, and why they're important. Presented at the Institute of Education Sciences 2006 Research Conference, Washington, DC.

Bloom, H. S., Richburg-Hayes, L., & Black, A. R. (2007). Using covariates to improve precision for studies that randomize schools to evaluate educational interventions. *Educational Evaluation & Policy Analysis, 29*(1), 30-59.

Cohen, J. (1988). *Statistical power analysis for the behavioral sciences (2nd ed.)*. Hillsdale, NJ: Lawrence Erlbaum.

Raudenbush, S. W., Martinez, A., & Spybrook, J. (2007). Strategies for improving precision in group-randomized experiments. *Educational Evaluation & Policy Analysis, 29*(1), 5-29.