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Request for Applications

Statistical and Research Methodology in Education

CFDA Number: 84.305D

Letter of Intent Due:	July 11, 2019	iesreview.ed.gov
Application Package Available:	July 11, 2019	Grants.gov
Application Due:	**No later than 11:59:59 p.m. Eastern Time August 29, 2019**	Grants.gov
Possible Grant Start Dates:	July 1 – September 1, 2020	

Released: June 20, 2019

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Part I: Overview and General Requirements

A. Introduction

The Institute of Education Sciences (IES) provides scientific evidence to improve education practice and policy and shares that evidence in a way that can be used by educators, parents, policymakers, researchers, and the public. Within IES, the National Center for Education Research (NCER) supports research focused on practices and policies that improve education outcomes and access to education opportunities for all learners from early childhood through adulthood, particularly those at risk of failure.

1. Statistical and Research Methodology in Education Grant Program (CFDA 84.305D)

In this Request for Applications (RFA), IES invites applications for research projects that will contribute to its Statistical and Research Methodology in Education (Methods) grant program (CFDA 84.305D). IES's mission is to provide rigorous evidence on which to ground education practice and policy and to encourage its use. The Methods program supports the development of a wide range of methodological and statistical products, including new or improved methods, guidelines or other methodological resources, and software, to better enable applied education scientists to conduct rigorous education research. Researchers should plan to disseminate their methods and tools to applied education researchers who may use them in their own work as well as to methods researchers who may further develop or make use of them.

2. RFA Organization

This RFA is organized as follows. Part I provides an overview of the competition and sets out the general requirements for a grant application. Parts II and III provide further detail on the specific requirements for the Methods grant program. Part IV provides information about appendices and other narrative content. Part V provides general information on competition regulations and the review process. Part VI provides a checklist that you can use to ensure you have included all required application elements to advance to scientific peer review.

3. Eligible Applicants

Institutions that have the ability and capacity to conduct scientific 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.

Broadening Participation in the Education Sciences: IES is interested in broadening institutional participation in its research grant programs. IES encourages applications from minority-serving institutions (MSIs), alone or in combination with other institutions, that meet the eligibility criteria for this RFA. MSIs include Alaska Native and Native Hawaiian-Serving Institutions; American Indian Tribally Controlled Colleges and Universities (TCU); Asian American and Native American Pacific Islander-Serving Institutions (AANAPISI); Hispanic-Serving Institutions (HSI); Historically Black Colleges and Universities (HBCU); Native American-Serving, Nontribal Institutions; and Predominantly Black Institutions (PBI). MSI applicants are encouraged to review the *IES Funding Opportunities for Minority Serving Institutions* webinar (available at https://ies.ed.gov/funding/webinars/).

The Principal Investigator: The institution is responsible for identifying the Principal Investigator (PI) on a grant application and may elect to designate more than one person to serve in this role. The PI 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. If more than one PI is named, the institution identifies these PIs as sharing the authority and responsibility for leading and directing the research project intellectually and logistically. All PIs 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 PI. All other PIs should be listed as Co-Principal Investigators (Co-PIs).

4. Technical Assistance for Applicants

IES provides technical assistance (TA) to applicants that addresses the appropriateness of project ideas for this competition and methodological and other substantive issues concerning research in education settings. IES Program Officers work with applicants though a variety of formats up until the time of Grants.gov submission. If you submit a Letter of Intent (LOI) at https://iesreview.ed.gov, a Program Officer will contact you regarding your proposed project. IES also provides Funding Opportunities Webinars (live and on demand at https://ies.ed.gov/funding/webinars/index.asp) that include advice on choosing the correct competition, grant writing, and submitting your application.

The Program Officer for this competition is:

> Dr. Phill Gagné
> Email: Phill.Gagne@ed.gov
> Telephone: (202) 245-7139

B. Changes in the FY2020 Request for Applications

All applicants and staff involved in proposal preparation and submission, whether submitting a new application or submitting a revised application, **should carefully read all relevant parts of this RFA**. Major changes to the Methods grant program (CFDA 84.305D) competition in FY 2020 are listed below and described fully in relevant sections of the RFA.

1. IES created a separate application submission guide that provides information about required electronic submission of applications through Grants.gov and an overview of the general IES funding process. Please see the IES Application Submission Guide at https://ies.ed.gov/funding/pdf/submissionguide.pdf for important information about submitting your application on-time through Grants.gov.

2. Appendix A: Dissemination Plan will now be considered by the scientific peer reviewers as part of their review of the Personnel section, in addition to the Significance and Resources sections of your Project Narrative. Reviewers will consider team members' qualifications for disseminating research findings to a range of audiences as part of their review of the Personnel section of the Project Narrative.

C. Getting Started

In order to submit a compliant, responsive, and timely application, you will need to review two documents:

1. This RFA to learn how to prepare an application that is compliant and responsive to the requirements; and

2. The IES Application Submission Guide[1] (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for important information about submission procedures and IES-specific guidance and

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[1] Please note that the IES Application Submission Guide includes application submission information that used to be included in the Request for Applications but has now been pulled out as a separate document.

recommendations to help you ensure your application is complete and received on time without errors through Grants.gov.

We strongly recommend that both the PI and the Authorized Organization Representative (AOR) read both of these documents, whether submitting a new or revised application.

Only compliant and responsive applications received before the date and time deadline are peer reviewed for scientific merit. **The PI and the AOR should work together to ensure that the application meets these criteria.**

- **On-Time Submission** - see the separate IES Application Submission Guide at https://ies.ed.gov/funding/pdf/submissionguide.pdf
    - Received and validated by Grants.gov no later than 11:59:59 pm Eastern Time on August 29, 2019.
- **Compliance** - see this RFA
    - Includes all **required content** (see Part III).
    - Includes all **required Appendices** (see Part IV).
        - Appendix A: Dissemination Plan (All applications)
        - Appendix B: Response to Reviewers (Resubmissions only)
- **Responsiveness** - see this RFA
    - Meets **General Requirements** for all applications (see Part I:D).
        - Topic (choose one)
        - Dissemination Plan
    - Meets **Project Narrative Requirements** for the selected Topic (see Part III).

D. General Requirements

Applications under the Methods grant program **must meet the requirements** set out in this section in order to be sent forward for scientific peer review.

1. Topics

- Your application **must** be directed to one of the two Methods topics (see Part II: Topic Descriptions).
- The Methods topics include:
    - Statistical and Research Methodology in Education – Regular
    - Statistical and Research Methodology in Education – Early Career

2. Dissemination

IES is committed to making the results of IES-funded research available to a wide range of audiences (see IES Policy Regarding Public Access to Research). To ensure that findings from the Methods grant program are available to all interested audiences, IES **requires all applicants** to present a plan to disseminate project findings in Appendix A: Dissemination Plan of the application. The scientific peer reviewers will consider the quality of the Dissemination Plan presented in Appendix A as part of their review of the Significance, Personnel, and Resources sections of your application (see Part III). **Applications that do not contain a Dissemination Plan in Appendix A will not be accepted for review.**

E. Award Limits

Applications to the Statistical and Research Methodology in Education grants program **must** conform to the following limits on award duration and cost by Topic.

Topic	Maximum Grant Duration	Maximum Grant Award
Regular Grants	3 years	$900,000
Early Career Grants	2 years	$225,000

Part II: Topic Descriptions

A. Applying to a Topic

For the FY 2020 Methods grant program, you **must** submit to 1 of the 2 research topics described in this section. You must identify your chosen topic area on the SF-424 Form (Item 4b) of the Application Package (see the IES Application Submission Guide), or IES may reject your application as nonresponsive to the requirements of this RFA.

Across all topics, in order to be sent forward for scientific peer review:

- You **must meet the general requirements** outlined in Part I.D: General Requirements.
- You **must meet the specific requirements** listed under Part III: Specific Requirements and Recommendations.

For each topic:

For the FY 2020 Methods competition, IES is competing two topics: (1) Regular Grants and (2) Early Career Grants. Applications submitted under both topics are to address the same types of methodological issues and meet the same specific requirements except those regarding Personnel. Awards made under the two topics differ in maximum project duration and award amount.

1. Regular Grants

The proposed duration of the project should reflect the scope of work to be accomplished. **The maximum duration of a Regular Methods Grant is 3 years.**

The budget should reflect the scope of the work to be conducted and the personnel and resource requirements to conduct the work. **The maximum award for a Regular Methods Grant is $900,000 (total cost = direct + indirect costs).**

2. Early Career Grants

IES established the Early Career Grants topic for applications from early career researchers to encourage a new generation of education researchers to address methodological issues and challenges and to develop methods and tools that will benefit the education sciences. **Applicants to the Early Career Grants topic must have received their doctorate on or after April 1, 2015.** Applicants eligible for the Early Career Grants topic may apply to either the Early Career or the Regular Grants topic. You should indicate your choice on the SF-424 cover sheet and at the top of the first page of the Project Narrative. Applicants who apply for the Early Career Grants topic **must** include the required research mentor or advisory panel who will collaborate on the research.

The Early Career topic is intended for applicants proposing high-quality work of the type discussed in the Overview section but that can be done over a shorter period and with less funding. **The maximum duration of an Early Career Methods Grant is 2 years.**

The budget should reflect the scope of the work to be conducted and the personnel and resource requirements to conduct the work. **The maximum award for an Early Career Methods Grant is $225,000 (total cost = direct + indirect costs).**

All applications to the Methods grant program are reviewed by the Statistics and Modeling peer review panel.

See the Procedures for Peer Review of Grant Applications for more information.

IES strongly encourages you to contact the Program Officer for this competition if you have questions regarding the appropriateness of a project for submission under a specific topic.

B. Statistical and Research Methods

1. Purpose

IES is interested in the development of practical statistical and methodological products such as new or improved methods, guidelines or other methodological resources, and software to improve study designs, data analyses, and interpretations of findings. These products should be designed for use by applied education researchers. IES requires that applicants justify the significance of their proposed work for applied education research, test that their products can be used by applied education researchers and identify how they will disseminate their products to applied education researchers (for example, through workshops and well-established websites rather than solely through methodological journals).

2. Needed Research

There are a wide range of methodological needs in applied education research and IES depends upon the field to identify those needs and to propose how they might be filled. At the same time, from the research it supports, IES has identified issues or challenges that would benefit from more attention from methodologists and is interested in seeing applications that address the following.

- *Variability in Effects:* Evaluations of program and policy interventions estimate average effects but often find that effects vary substantially around the average. Research is needed to improve or expand methods to identify factors such as neighborhood context, school or organizational characteristics, and student or family characteristics that may account for such variation. This work might include the further development and refinement of methods for the systematic collection and analysis of data on moderating and mediating variables. Ultimately, IES seeks to advise researchers on which factors to include in their studies and how best to conduct the corresponding analyses.

- *Generalizability of Findings:* Multilevel analyses of data from rigorous evaluation designs provide estimates of effects across multiple classrooms, schools, or districts, but the direct applicability of these estimates to the schools within or outside the sample is rarely considered. Applied researchers need tools to answer such questions as "Does it work in my school?" from a principal whose school was in the sample, or "Could this work in my district?" from a superintendent whose school district was not involved in the study. The use of convenience sampling in evaluations increases the complexity of generalizing results. There has been some work in education on developing weights based on surveys or other sources of information about the population to make the estimate of the treatment effect more likely to reflect the effect in the general population, but further research is needed.

- *Single-case Designs:* Single-case experimental designs are critically important for research with low-incidence disability populations. A paper commissioned by IES provides a thorough theoretical treatment and applied demonstration of effect sizes in single-case research. However, further research is needed to address analytical challenges, such as lack of independence between observations, low numbers of participants, and phase shifts. These analytical challenges influence calculating effect sizes, improving or extending the statistical analyses of different single-case designs including alternating treatments and multiple baselines and the use of different approaches, such as hierarchical linear modeling and nonparametric tests.

- *Analyzing Big Data:* The increasing availability of data (large both in number of participants and variables per participant) collected by multiple sources creates new opportunities to address

applied education research questions. Broadly, this will involve the application of data science, artificial intelligence, and machine learning to education research.

- *Quasi-experimental Designs (QEDs):* QEDs (for example, matching and regression discontinuity designs) are typically employed when random assignment is not feasible to evaluate the impact of an intervention. Work is needed on improving these methods, including increasing their ability to reduce selection bias in estimates of the treatment effect and identifying the conditions that are necessary for doing so.[2] Relatedly, as matching techniques become more sophisticated and greater data availability increases matching possibilities, applied researchers would benefit from advice on how best to obtain the most appropriate comparison group and methods/software to carry out matching.

- *Interpreting Impacts:* Findings from evaluation studies are often presented in ways that lack clear practical implications, such as Cohen's 1988 guidelines on effect sizes. Education researchers and consumers of education research need tools to help them interpret the findings in ways that lead to better decisions.

- *Costs and Benefits:* IES now requires education researchers to build analyses of costs and benefits into their evaluations of interventions. Research to improve the accuracy of these methods, increase their interpretability, and make them easier to use will support their wider implementation in evaluations and use in decisionmaking.

- *Synthetic Datasets:* Synthetic datasets represent a potentially promising approach to balancing the need to guarantee the privacy of study participants with the increasing emphasis on making research and evaluation data fully open. Work is needed to improve methods for generating synthetic datasets that reliably maintain both the distributional characteristics of key variables in a dataset as well as the relationships among them. Of particular interest to IES are approaches that are well-suited to protect the privacy—and maintain the analytic utility—of data arising from impact studies, such as those conducted by the National Center for Education Evaluation or its Regional Educational Laboratories.

- An increasing number of students are opting out of state and district standardized tests used to assess student performance and measure progress toward policy goals such as increasing proficiency in reading, math, and other subjects. Applied education researchers would benefit from methodological assistance on how to address this source of missing data, especially if it is non-random.

IES is interested in research across a wide range of areas, and you are not limited to the ones described above. IES encourages applications in the above areas because it believes research in these areas can contribute to important advances in applied education research.

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[2] IES has restricted-use data files from random assignment studies that could be used to conduct this type of study. Information on obtaining IES's restricted-use data licenses is available at https://nces.ed.gov/pubsearch/licenses.asp.

Part III: Specific Requirements and Recommendations

For applications to the FY 2020 Methods grants program, you **must** submit under either the Regular or Early Career topic.

- **See the Requirements section** for the specific content that you must address in the Project Narrative in order to be sent forward for scientific peer review.
- **See the Award Limits section** for duration and cost maximums that restrict budgets by topic.
- **See the Recommendations for Strong Applications section** for recommendations to improve the quality of your application. Where appropriate, recommendations are aligned with the Standards for Excellence in Education Research (SEER; https://ies.ed.gov/seer.asp) to ensure that research is transparent, actionable, and focused on meaningful outcomes that have the potential to dramatically improve education outcomes. The scientific peer reviewers are asked to consider these recommendations in their evaluation of the quality of your application. IES strongly encourages you to incorporate the recommendations into your Project Narrative and relevant appendices (see Part IV).

A. Requirements

The **Project Narrative** (recommended length: no more than 25 pages) for a Methods project application **must** include four sections – Significance, Research Plan, Personnel, and Resources.

Significance – The purpose of this section is to describe your research aims while providing a compelling rationale for the development of a new method or the further development of an existing one.
- You **must describe**

  o the specific method(s) or tool(s) the project will produce;
  o how it will solve practical problems encountered by applied education researchers; and
  o how it will be easy to obtain and use by applied education researchers

Research Plan – The purpose of this section is to describe how you will develop and test the method as well as check its usability by applied education researchers.

- You **must describe** your

  o research design and methods for

    ▪ developing the methods(s) or tool(s),
    ▪ determining that it works as intended, and
    ▪ determining that applied education researchers can use it;

  o data; and
  o data analysis plan.

Personnel – The purpose of this section is to demonstrate that your team possesses the appropriate training and experience for the proposed research and dissemination activities and will commit enough time to the project.

- You **must describe** your

  o project team.
  o For Early Career applications, you **must** also

    ▪ provide the date of the PI's doctorate (to be eligible, it must have been received on or after April 1, 2015);
    ▪ identify the PI's dissertation chair; and

- identify the required research mentor or advisory panel who will collaborate on the proposed research. A mentor or adviser cannot have served as the PI's dissertation chair.

Resources – The purpose of this section is to describe how you have both the institutional capacity to complete a project of this type and the access to the resources you will need to successfully complete this project and disseminate the method(s) or tool(s) the project will produce.

- You **must describe** your
  - o resources to conduct the project.

B. Award Limits

Awards made under the Methods grant program **must** conform to the following limits on duration and cost. These limits vary depending on whether the project is led by an Early Career PI.

Duration Maximums:

- The maximum duration of a Regular Methods Grant is 3 years.
- The maximum duration of an Early Career Methods Grant is 2 years.

Cost Maximums:

- The maximum award for a Regular Methods Grant is $900,000 (total cost = direct costs + indirect costs).
- The maximum award for an Early Career Methods Grant is $225,000 (total cost = direct costs + indirect costs).

C. Recommendations for Strong Applications

These recommendations are intended to improve the quality of your application, and the peer reviewers are asked to consider these recommendations in their evaluation of your application.

1. Significance

- Describe the specific issue or problem faced by applied education researchers that your work addresses.
- Discuss the overall importance of this issue/problem to the improvement of applied education research, the overall importance of its resolution, and its relevance to the type of work IES funds.
- Describe current methods used to address this issue or problem and explain why current practice is not satisfactory.
- Describe the intended practical statistical/methodological method(s) or tool(s) your project will produce (e.g., methods, guidelines or other methodological resources, software) and how it is to be implemented. Contrast this with current typical practice and its identified shortcomings. A detailed description will clearly show your method(s) or tool(s) has the potential to produce substantially more accurate and/or more usable research results because (a) it is sufficiently different from current practice that it does not suffer from the same shortcomings; (b) there are theoretical and empirical justifications for expecting it to function as planned; and (c) applied education researchers will be able to use it.
- If you propose to further develop a method(s) or tool(s) from a previous project, justify the need for another award, and describe the results and outcomes of your prior or currently held awards that contributed to the development of the method.
- Discuss how the method(s) or tool(s) your project will produce can be used by applied education researchers to improve the designs of their studies, analyses of their data, and/or interpretations of their findings.
- In Appendix A: Dissemination Plan, describe how you will make the method(s) or tool(s) you will produce widely available to applied education researchers.
- For applications to the Early Career topic, if you are proposing work that builds on your dissertation, you should describe how the new work substantially differs from and expands on

your past work. To this end, you should describe your dissertation with enough detail to ensure that the peer reviewers will understand the differences between it and the proposed work.

2. Research Plan

- Explain the major activities and sequence of steps you will follow to develop the method(s) or tool(s). If you are building on a method or tool that is currently available, be clear about what you are changing or enhancing.
- If you propose to collect data, you should describe the sample (including criteria for inclusion/exclusion), measures (including evidence of reliability and validity for the specified use), and procedures proposed for the data collection. You should also provide documentation in Appendix E: Letters of Agreement to assure reviewers that you already have access to the settings where data will be collected or that access can be obtained, and the project can be carried out in a timely fashion.
- If you propose secondary data analyses, you should provide information on sampling design, sample characteristics, variables to be used, and the structure of the dataset. The dataset should be described in enough detail to allow reviewers to judge whether the proposed analyses can be conducted with the dataset. If multiple datasets will be linked to conduct analyses, reviewers must be able to judge the feasibility of the linking plan. You should also provide sufficient documentation in Appendix E: Letters of Agreement to assure reviewers that you have access to the data or that access can be obtained, and the project can be carried out in a timely fashion.
- If you propose to conduct a simulation study, the procedure should be described at the level of detail typically found in the Method section of a research manuscript, including a description of the variables to be manipulated, a description of the outcome(s) of interest, and as applicable, criteria for determining whether outcomes such as biases or differences between parameter estimates are consequential. You should describe the data generation process, including the sample size(s), the values of relevant fixed parameters, the values that will be used for parameters that are varied in the simulation study, and the software package that will be used to generate the data.
- The data analytic plan should have sufficient detail to permit reviewers to judge the appropriateness and adequacy of the plan for addressing the hypotheses or research questions. You should include an explicit discussion of how any missing data will be handled within the statistical analyses.
- As you describe how you will determine whether applied education researchers can successfully use the method(s) or tool(s), you should identify the setting where testing will be done and the researchers who will carry out the test. For example, colleagues might use the method in their own research, students could use the method in a course you teach, state or local education personnel might try the method with their administrative data. You should also make clear how you will judge successful use of the method(s) or tool(s).

3. Personnel

- Identify and briefly describe the relevant expertise of all key personnel, including the PI, Co-PIs, Co-Investigators, mentors and advisers on the project team regardless of whether they are located at the primary applicant institution or a subaward institution.
- Describe additional personnel at the primary applicant institution and any subaward institutions along with any consultants.
- Describe team members' qualifications to carry out the proposed work, including

    o statistical and methodological expertise necessary to carry out the research plan;
    o experience with the datasets proposed for use, and working with the holders of data as needed
    o adapting methods for use by applied education researchers; and

- o past success at disseminating research findings and products to a range of audiences, including in peer-reviewed scientific journals, to applied education researchers, and the education marketplace.

- Describe how your research team collectively demonstrates the capacity to complete this work.
- Identify the management structure and procedures that will be used to keep the project on track and ensure the quality of its work, including

    - o roles and responsibilities of personnel within the project; and
    - o percent of time per calendar year (academic months plus summer months) personnel will devote to the project.

- For applicants to the Early Career Grants topic, describe your mentor's or advisers' qualifications for supporting your proposed research and their roles on the project. Grant funds can be used to support the mentors' and advisers' roles in the project. Although mentors and advisers may be co-authors, IES expects that the PI will have first authorship on primary research publications resulting from the grant.
- If you have previously received a Methods grant award, you should indicate the results of your past work, its dissemination, and its use by other researchers and/or policymakers and practitioners. In addition, you should discuss any theoretical contributions made by your previous work. By demonstrating that your previous work has made these contributions, you provide a stronger case for engaging in another Methods project.

4. Resources

- Describe your institution's capacity to manage a grant of this size.
- Describe your access to resources available at the primary institution and any subaward institutions.
- Describe your plan for acquiring any resources that are not currently accessible, will require significant effort or expenditure, and are necessary for the successful completion of the project.
- Describe your access to any datasets required and, if applicable, to schools (or other education delivery settings) with whom you will be working. Include Letters of Agreement in Appendix E documenting the willingness of organizations to allow you to use their datasets for the purposes of your study and, if applicable, the availability and cooperation of the schools to take part in the project. Convincing letters should convey that the organizations understand what their participation in the study will involve, such as, provision of specific data, annual student and teacher surveys, and student assessments.
- Describe your access to education researchers to user-test the method. For example, identify applied education researchers willing to try the method or tool in their work or courses in which students will use and critique it.
- Describe your resources to carry out your plans to disseminate the results of your project in Appendix A: Dissemination Plan.

    - o Describe any offices or organizations expected to take part in your dissemination plans.
    - o Describe resources to support dissemination through electronic means such as a website, social media account(s), electronic newsletter, listserv, or other electronic dissemination approach.

Part IV: Appendices and Other Narrative Content

A. Required and Optional Appendices

The required Project Narrative – Significance, Research Plan, Personnel, and Resources – that is described for each topic (see Part III: Specific Requirements and Recommendations) is followed by several appendices. Some of these appendices are required, and some are optional. When you submit your application through Grants.gov, you will create a single PDF file that *contains the Project Narrative and all appendices* and include it as an attachment in the application package. Include appendices in alphabetical order and simply skip an appendix if it is not required for your application or if you choose not to include one of the optional appendices. See the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for more information about preparing and submitting your application using the required application package for this competition through Grants.gov (https://www.grants.gov/).

1. Appendix A: Dissemination Plan (Required)

You **must** include Appendix A after the Project Narrative. We recommend that Appendix A be no more than two pages. In Appendix A, describe your plan to disseminate the findings from the proposed project. Dissemination plans should be tailored to the audiences that will benefit from the findings and reflect the unique purposes of your project.

- Identify the audiences that you expect will most likely benefit from your research such as, education researchers, other methods researchers who might further develop your method(s) or tool(s), federal policymakers and program administrators, state policymakers and program administrators, state and local school system administrators, school administrators, teachers and other school staff, parents, students, and other education researchers.
- Discuss the different ways in which you intend to reach these audiences through the publications, presentations, and products you expect to produce.
  - o IES-funded researchers are expected to publish and present in venues designed for policymakers and practitioners in a manner and style useful and usable to this audience, as applicable. For example:
    - Give presentations and workshops at meetings of professional associations of teachers and leaders.
    - Publish in practitioner journals.
    - Engage in activities with relevant IES-funded Research and Development (R&D) Centers, Research Networks, or Regional Educational Laboratories (RELs)
      - ▸ R&D Centers: https://ies.ed.gov/ncer/research/randdCenters.asp;
      - ▸ Research Networks: https://ies.ed.gov/ncer/research/researchNetworks.asp;
      - ▸ RELs: https://ies.ed.gov/ncee/edlabs/.
  - o IES-funded researchers who create products for use in research and practice as a result of their project (such as new or improved methods, guidelines or other methodological resources, software, user's manuals, and professional development programs), and guidance for research design are expected to make these products available for research purposes or (after evaluation or validation) for general use. Consistent with existing guidelines, IES encourages researchers to consider how these products could be brought to market to increase their dissemination and use.
  - o IES-funded researchers are expected to publish their findings in scientific, peer-reviewed journals and present them at conferences attended by other researchers.

The Dissemination Plan is the only information that should be included in Appendix A.

2. Appendix B: Response to Reviewers (Required for Resubmissions)

If your application is a resubmission, you **must** include Appendix B. If your application is one that you consider to be new but that is similar to a previous application, you should include Appendix B. We recommend that Appendix B be no more than three pages. Use Appendix B to describe how the revised application is responsive to prior reviewer comments.

If you have submitted a somewhat similar application in the past but are submitting the current application as a new application, you should use Appendix B to provide a rationale explaining why the current application should be considered a "new" application rather than a "resubmitted" application. This response to the reviewers or justification to be considered a new application is the only information that should be included in Appendix B.

3. Appendix C: Supplemental Charts, Tables, and Figures (Optional)

We recommend that Appendix C be no more than 15 pages. In Appendix C, you may include figures, charts, or tables with supplementary information like a timeline for your research project, a diagram of the management structure of your project, or examples of measures used to collect data for your project, such as individual test items, tests, surveys, and observation and interview protocols. These are the only materials that should be included in Appendix C.

4. Appendix D: Examples of Intervention or Assessment Materials (Optional)

We recommend that Appendix D be no more than 10 pages. If you are proposing to explore, develop, evaluate, or validate an intervention or assessment you may include examples of curriculum materials, computer screen shots, assessment items, or other materials. These are the only materials that should be included in Appendix D.

5. Appendix E: Letters of Agreement (Optional)

We do not recommend a page length for Appendix E. Use this appendix to provide copies of Letters of Agreement from schools and districts who will participate in or provide data for the proposed research or serve as consultants. Ensure that the letters reproduce well so that reviewers can easily read them. Do not reduce the size of the letters. See the IES Application Submission Guide for guidance regarding the size of file attachments.

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. A common reason for projects to fail is loss of participating schools and districts. Letters of Agreement regarding the provision of data should make it clear that the author of the letter will provide the data described in the application for use in the proposed research and in time to meet the proposed schedule. These are the only materials that should be included in Appendix E.

B. Other Narrative Content

In addition to the Project Narrative (see Part III: Specific Requirements and Recommendations) and required and optional Appendices (see above), you will also prepare a Project Summary/Abstract, a Bibliography and References Cited, and an Exempt or Non-Exempt Research on Human Subjects Narrative (see the IES Application Submission Guide for information on what to include in this narrative) to include as file attachments in your application. See the IES Application Submission Guide for more information about preparing and submitting your application using the required application package for this competition on Grants.gov (https://www.grants.gov/).

1. Project Summary/Abstract

You must submit the Project Summary/Abstract as a separate PDF attachment. We recommend that the Project Summary/Abstract be one-page long and include the following information.

- **Title:** A distinct, descriptive title of the project.
- **Topic** to which you are applying (either Regular or Early Career). This information should match the topic code entered for Item 4b: Agency Routing Number on the SF 424 Application for Federal Assistance form (see the IES Application Submission Guide).
- **Purpose**: A brief description of the purpose of the project and its significance for improving education statistics and research methodology.
- **Setting**: A brief description of the location (identified at the state level) where the research will take place and other important characteristics of the locale, such as whether it is rural or urban.
- **Population/Sample**: A brief description of the sample including number of participants; the composition of the sample including age or grade level, race/ethnicity, or disability status as appropriate; and the population the sample is intended to represent.
- **Methodological Development**: A brief description of the method(s) or tool(s) the research team will develop, evaluate, or validate.
- **Control Condition**: If applicable, a brief description of the control or comparison condition used in a simulation or secondary data analysis.
- **Research Design and Methods**: Briefly describe the major features of the design and methodology to be used (e.g., Monte Carlo simulation, secondary data analysis, iterative design process).
- **Key Measures:** A brief description of key measures, including what constructs the measures assess and whether those constructs are study outcomes.
- **Data Analytic Strategy**: A brief description of the data analytic strategies that the research team will use to answer research questions.

See our online search engine of funded research grants (https://ies.ed.gov/ncer/projects) for examples of the content to be included in your Project Summary/Abstract.

2. Bibliography and References Cited

You must submit the Bibliography and References Cited as a separate PDF attachment in the application package. We do not recommend a page length for the Bibliography and References Cited. You should include complete citations, including the names of all authors (in the same sequence in which they appear in the publication), titles of relevant elements such as the article/journal and chapter/book, page numbers, and year of publication for literature cited in the Project Narrative.

3. Human Subjects Narrative

You **must** submit an Exempt or Non-Exempt Human Subjects Narrative as a separate PDF attachment in the application package. We do not recommend a page length for the Human Subjects Narrative. See Information About the Protection of Human Subjects in Research Supported by the Department of Education for more information about what to include in this narrative.

The U.S. Department of Education does not require certification of Institutional Review Board approval at the time you submit your application. However, if an application that involves non-exempt human subjects research is recommended for funding, the designated U.S. Department of Education official will request that you obtain and send the certification to the Department within 30 days of the formal request.

Part V: Competition Regulations and Review Criteria

A. Funding Mechanisms and Restrictions

1. Mechanism of Support

IES intends to award grants pursuant to this Request for Applications.

2. Funding Available

Although IES intends to support the topics described in this announcement, all awards pursuant to this Request for Applications are contingent upon the availability of funds and the receipt of meritorious applications. IES makes its awards to the highest quality applications, as determined through scientific peer review, regardless of topic.

The size of the award depends on the topic and scope of the project. Please attend to the duration and budget maximums set for each topic in Part II Topic Descriptions.

3. Special Considerations for Budget Expenses

Indirect Cost Rate

When calculating your expenses for research conducted in field settings, you should apply your institution's federally negotiated off-campus indirect cost rate. Questions about indirect cost rates should be directed to the U.S. Department of Education's Indirect Cost Group https://www2.ed.gov/about/offices/list/ocfo/fipao/icgindex.html.

Institutions, both primary grantees and subawardees, not located in the territorial United States may not charge indirect costs.

Meetings and Conferences

If you are requesting funds to cover expenses for hosting meetings or conferences, please note that there are statutory and regulatory requirements in determining whether costs are reasonable and necessary. Please refer to the Office of Management and Budget's (OMB's) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance), 2 CFR, §200.432 Conferences.

In particular, federal grant funds cannot be used to pay for alcoholic beverages or entertainment, which includes costs for amusement, diversion, and social activities. In general, federal funds may not be used to pay for food. A grantee hosting a meeting or conference may not use grant funds to pay for food for conference attendees unless doing so is necessary to accomplish legitimate meeting or conference business. You may request funds to cover expenses for working meetings, such as working lunches; however, IES will determine whether these costs are allowable in keeping with the Uniform Guidance Cost Principles. Grantees are responsible for the proper use of their grant awards and may have to repay funds to the Department if they violate the rules for meeting- and conference-related expenses or other disallowed expenditures.

4. 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.

5. Applicable Regulations

Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) codified at CFR Part 200. The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 77, 81, 82, 84, 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.

B. Additional Award Requirements

1. Attendance at the Annual IES Principal Investigators Meeting

The Principal Investigator (PI) is required to attend one meeting each year (for up to 2 days) in Washington, DC with other IES grantees and IES staff. The project's budget should include this meeting. Should the PI not be able to attend the meeting, she or he may designate another person who is key personnel on the research team to attend.

2. Public Availability of Data and Results

All Principal Investigators are required to submit the electronic version of their final manuscripts upon acceptance for publication in a peer-reviewed scholarly publication to ERIC, a publicly accessible and searchable electronic database of education research that makes available full text documents to the public for free. This public access requirement applies to peer-reviewed, original scholarly publications that have been supported (in whole or in part) with direct funding from IES, although it does not apply to book chapters, editorials, reviews, or non-peer-reviewed conference proceedings. **Principal Investigators must submit any peer-reviewed scholarly publications to ERIC**.

The author's final manuscript is defined as the final version accepted for journal publication and includes all modifications from the peer review process. Submission of accepted manuscripts for public accessibility through ERIC is strongly encouraged as soon as possible **but must occur within 12 months of the publisher's official date of publication.** ERIC will not make the accepted manuscripts available to the public prior to the end of the 12-month embargo period, unless specified by the publisher.

The ERIC website includes a homepage for the Grantee and Online Submission System, as well as a Frequently Asked Questions page. During the submission process, authors will submit bibliographic information from the publication, including title, authors, publication date, journal title, and associated IES award number(s).

3. Special Conditions on Grants

IES may impose special conditions on a grant pertinent to the proper implementation of key aspects of the proposed research design or if the grantee is not financially stable, has a history of unsatisfactory performance, has an unsatisfactory financial or other management system, has not fulfilled the conditions of a prior grant, or is otherwise not responsible.

4. Demonstrating Access to Data and Education Settings

The research you propose to do under a specific topic will most likely require that you have (or will obtain) access to education settings such as classrooms, schools, and/or districts; secondary datasets; or studies currently under way. In such cases, you will need to provide evidence that you have access to these resources prior to receiving funding. Whenever possible, include Letters of Agreement in Appendix E. from those who have responsibility for or access to the data or settings you wish to incorporate when you submit your application. Even in circumstances where you have included such letters with your application, **IES will require additional supporting evidence prior to the release of funds**. If you cannot provide such documentation, IES may not award the grant or may withhold funds.

You will need supporting evidence of partnership or access if you are doing any of the following.

- *Conducting research in or with education settings* - If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to education settings, you will need to provide documentation that you have access to the necessary settings in order to receive the grant. This means that if you do not have permission to conduct the proposed project in the necessary number of settings at the time of application, you will need to provide documentation to IES indicating that you have successfully recruited the necessary number of settings for the proposed research before the full first-year costs will be awarded. If you recruited sufficient numbers of settings prior to the application, IES will ask you to provide documentation that the settings originally recruited for the application are still willing to partner in the research.
- *Using secondary datasets* - If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to secondary datasets (such as federally collected datasets, state or district administrative data, or data collected by you or other researchers), you will need to provide documentation that you have access to the necessary datasets in order to receive the grant. This means that if you do not have permission to use the proposed datasets at the time of application, you must provide documentation to IES from the entity controlling the dataset(s) before the grant will be awarded. This documentation must indicate that you have permission to use the data for the proposed research for the time period discussed in the application. If you obtained permission to use a proposed dataset prior to submitting your application, IES will ask you to provide updated documentation indicating that you still have permission to use the dataset to conduct the proposed research during the project period.
- *Building on existing studies* - You may propose studies that piggyback onto an ongoing study, which will require access to those subjects and data. In such cases, the PI of the existing study should be one of the members of the research team applying for the grant to conduct the new project.

In addition to obtaining evidence of access, IES strongly advises applicants to establish a written agreement, within 3 months of receipt of an award, among all key collaborators and their institutions, including PI and Co-PIs, regarding roles, responsibilities, access to data, publication rights, and decisionmaking procedures.

B. Overview of Application and Scientific Peer Review Process

1. Submitting Your Letter of Intent

Letters of Intent (LOIs) are submitted online at https://iesreview.ed.gov. **Select the Letter of Intent form for the topic under which you plan to submit your application**. The online submission form contains fields for each of the seven content areas listed below. Use these fields to provide the requested information. The project description should be single-spaced and is recommended to be no more than one page (about 3,500 characters). The LOI is non-binding and optional, but strongly recommended. If you submit an LOI, a Program Officer will contact you regarding your proposed research. IES staff also use the information in the LOI to identify the expertise needed for the scientific peer review panels and to secure a sufficient number of reviewers to handle the anticipated number of applications. The LOI form includes the following information.
Elements for the Letter of Intent:

- Descriptive title
- Topic that you will address
- Brief description of the proposed project
- Name, institutional affiliation, address, telephone number and email address of the PI and any Co-PIs
- Name and institutional affiliation of any key collaborators and contractors

- Duration of the proposed project (attend to the Duration maximums for each topic)
- Estimated total budget request (attend to the Budget maximums for each topic)

2. Resubmissions and Multiple Submissions

If you intend to revise and resubmit an application that was submitted to one of the previous IES competitions but that was not funded, you **must** indicate on the SF 424 Application for Federal Assistance Form in the application package (see IES Application Submission Guide) that the FY 2020 application is a resubmission (Item 8) and include the application number of the previous application (an 11-character alphanumeric identifier beginning "R305" entered in Item 4a). Prior reviews will be sent to this year's reviewers along with the resubmitted application. You **must** describe your response to the prior reviews using Appendix B: Response to Reviewers. Revised and resubmitted applications will be reviewed according to this FY 2020 Request for Applications.

If you submitted a somewhat similar application in the past and did not receive an award but are submitting the current application as a new application, you should indicate on the application form (Item 8) that your FY 2020 application is a new application. In Appendix B, you should provide a rationale explaining why your FY 2020 application should be considered a new application rather than a revision. If you do not provide such an explanation, then IES may send the reviews of the prior unfunded application to this year's reviewers along with the current application.

You may submit applications to more than one of the IES FY 2020 grant programs. In addition, within a particular grant program or topic, you may submit multiple applications. However, you may submit a given application only once for the FY 2020 grant competitions, meaning you may not submit the same application or similar applications to multiple grant programs, multiple topics, or multiple times within the same topic. If you submit the same or similar applications, IES will determine whether and which applications will be accepted for review and/or will be eligible for funding.

3. Application Processing

Applications must be submitted electronically and received no later than 11:59:59 p.m., Eastern Time on August 29, 2019 through the internet using the software provided on the Grants.gov website https://www.grants.gov/. You must follow the application procedures and submission requirements described in the IES Application Submission Guide and on Grants.gov https://www.grants.gov/web/grants/applicants/apply-for-grants.html.

After applications are fully uploaded and validated at Grants.gov, the U.S. Department of Education receives the applications for processing and transfer to the IES Peer Review Information Management Online (PRIMO) system (https://iesreview.ed.gov/). PRIMO allows applicants to track the progress of their application via the Applicant Notification System (ANS).

Approximately one to two weeks after the application deadline, invitation emails are sent to applicants who have never applied to IES before to create their individual PRIMO ANS accounts. Both the PD/PI and the AOR will receive invitation emails. Approximately four to six weeks after the application deadline, all applicants (new and existing ANS users) will begin to receive a series of emails about the status of their application. See the IES Application Submission Guide for additional information about ANS and PRIMO.

Once an application has been submitted and the application deadline has passed, you may not submit additional materials or information for inclusion with your application.

4. Scientific Peer Review Process

IES will forward all applications that are compliant and responsive to this Request for Applications to be evaluated for scientific and technical merit. Scientific reviews are conducted in accordance with the review criteria stated below and the review procedures posted on the IES website, https://ies.ed.gov/director/sro/peer_review/application_review.asp, by a panel of scientists who have

substantive and methodological expertise appropriate to the program of research and Request for Applications.

Each compliant and responsive application is assigned to one of the IES scientific review panels https://ies.ed.gov/director/sro/peer_review/reviewers.asp. 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, IES calculates an average overall score for each application and prepares a preliminary rank order of applications before the full scientific 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 application that he or she believes merits full panel review but that would not have been included in the full panel meeting based on its preliminary rank order.

5. Review Criteria for Scientific Merit

The purpose of IES-supported research is to contribute to solving education problems and to provide reliable information about the education practices that support learning and improve academic achievement and access to education for all learners. IES expects reviewers for all applications 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 purpose. Information pertinent to each of these criteria is described in Part III: Specific Requirements and Recommendations and in the section describing the relevant research grant topic within Part II: Topic Descriptions.

Significance

Does the applicant address the recommendations described in the Significance section for the topic under which the applicant is submitting the application?

Research Plan

Does the applicant address the recommendations described in the Research Plan section for the topic under which the applicant is submitting the application?

Personnel

Does the applicant address the recommendations described in the Personnel section for the topic under which the applicant is submitting the application?

Resources

Does the applicant address the recommendations described in the Resources section for the topic under which the applicant is submitting the application?

6. Award Decisions

The following will be considered in making award decisions for responsive and compliant applications:

- scientific merit as determined by scientific peer review;
- performance and use of funds under a previous federal award;
- contribution to the overall program of research described in this Request for Applications;
- ability to carry out the proposed research within the maximum award and duration requirements; and
- availability of funds.

Part VI: Compliance and Responsiveness Checklist

Only compliant and responsive applications will be peer reviewed. Use this checklist to better ensure you have included all required components for compliance and that you have addressed all general and project narrative requirements for responsiveness.

See the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for an Application Checklist that describes the forms in the application package that must be completed and the PDF files that must be attached to the forms for a successful submission through Grants.gov.

Compliance		
	• Have you included a Project Narrative?	
	• Have you included Appendix A: Dissemination Plan?	
	• If you are resubmitting an application, have you included Appendix B: Response to Reviewers?	
Responsiveness		
	• Have you met all the General Requirements for an application?	
	o Have you identified a single topic for your application?	
	• Does your Project Narrative include the four required sections and the associated requirements for the selected topic? Did you describe the elements required for each section?	
Required Project Narrative Elements		
	<u>Early Career Methods Grant</u>	<u>Regular Methods Grant</u>
Significance	You must describe • the specific method(s) or tool(s) the project will produce; • how it will solve practical problems encountered by applied education researchers; and • how it will be easy to obtain and use by applied education researchers.	You must describe • the specific method(s) or tool(s) the project will produce; • how it will solve practical problems encountered by applied education researchers; and • how it will be easy to obtain and use by applied education researchers.

Research Plan	You must describe your
	• research design and methods for
	  o developing the method(s) or tool(s),
	  o determining that it works as intended, and
	  o determining that applied education researchers can use it;
	• data; and
	• data analysis plan.
		You must describe your
		• research design and methods for
		  o developing the method(s) or tool(s),
		  o determining that it works as intended, and
		  o determining that applied education researchers can use it;
		• data; and
		• data analysis plan.

Personnel	You must describe your • project team For Early Career applications, you must also • provide the date of the PI's doctorate (to be eligible, it must have been received on or after April 1, 2015), • identify the PI's dissertation chair, and • identify the required research mentor or advisory panel who will collaborate on the proposed research. A mentor or advisor cannot have served as the PI's dissertation chair.	You must describe your • project team
Resources	You must describe your • resources to conduct the project	You must describe your • resources to conduct the project