Statistical and Research Methodology in Education

Assistance Listing Number (ALN): 84.305D

A Product of the National Center for Education Research

Letter of Intent Due:	July 8, 2021	https://iesreview.ed.gov/LOI/LOISubmit
Application Package Available:	June 15, 2021	https://www.grants.gov/
Application Deadline:	11:59:59 p.m. Eastern Time on August 12, 2021	https://www.grants.gov/
Possible Start Dates:	March 1 – September 1, 2022	

All applicants must also read the companion IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for information on how to prepare and submit applications electronically through Grants.gov.

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Part I: Overview and General Requirements

A. Purpose of the Statistical and Research Methodology in Education Grants Program

Through its National Center for Education Research (NCER), the Institute of Education Sciences (IES) supports a program of research to build knowledge and understanding of education practice and policy. IES was established by the Education Sciences Reform Act of 2002 (ESRA - P.L. 107-279), in part to improve academic achievement and access to educational opportunities for all learners (ESRA, § 111.b.1.B) but also to focus on learners whose increased achievement would help close achievement gaps (ESRA, § 115.a.1) or who lack access to educational opportunities (ESRA, § 115.a.2.A). In carrying out this mission, IES takes steps to ensure that our work is carried out in a manner that is objective, secular, neutral, and nonideological and free of partisan political influence and racial, cultural, gender, or regional bias (ESRA, § 111.b.2.B).

In this Request for Applications (RFA), NCER invites applications for projects that will contribute to its Statistical and Research Methodology in Education (Methods) grant program. The specific purpose of the Methods grant program is to develop and disseminate statistical and methodological products for use by education researchers as they carry out the type of education research IES supports.

For FY 2022, IES is accepting Methods applications under two topics:
- [Core Grants](#)
- [Early Career Grants](#)

The Methods grant program supports the development of a wide range of statistical and methodological products, including new and improved methods, toolkits, guidelines, compendia, review papers, and software, to better enable education scientists to conduct rigorous education research. Researchers should plan to disseminate their products to 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.

Separate funding announcements are available on the IES website (https://ies.ed.gov/funding) that pertain to other discretionary grant competitions funded through the National Center for Education Research (https://ncer.ed.gov) and the National Center for Special Education Research (https://ncser.ed.gov). An overview of IES research grant programs is available at https://ies.ed.gov/funding/overview.asp.

B. Needed Research

There are a wide range of methodological needs in applied education research, and IES depends upon the field to identify and meet those needs. At the same time, IES is interested in seeing applications that propose to develop new and improved methods, toolkits and guidelines to use existing methods, and compendia and reviews of available information on existing methods regarding the following.

- *Generalizability of Findings*: Multilevel analyses of data from rigorous evaluation designs provide estimates of effects across multiple classrooms, schools, or districts, but the applicability of these estimates to 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 (SCDs) are critically important for research with low-incidence disability populations. A paper (https://eric.ed.gov/?id=ED562991) commissioned by IES provides a thorough theoretical treatment and applied demonstration of effect sizes in single-case research. IES has supported work on the development of design-comparable effect sizes for reversal and multiple baseline designs. There is not, however, a clear approach for calculating design-comparable effect sizes for other SCDs, such as alternating treatment designs and changing criterion designs. Further research is also needed to address other analytical challenges, such as lack of independence between observations, low numbers of participants, phase shifts, and baseline trend, all of which impact effect size calculation for all SCDs and parameter estimation in SCDs through statistical approaches such as multilevel modeling.

- *Data Science Tools for Education Researchers:* With the high rate of adoption of new education technology products as well as with the digitization of school-, district-, and State-level datasets, there are increasing opportunities for education researchers to collect large amounts of different types of data as well as merge data from multiple sources. There is a need for innovative tools to enable education researchers to tap into the insights that come out of data science, artificial intelligence, and machine learning methods. This could include techniques and tools to streamline the process of merging multiple datasets, tools to facilitate the collection of a variety of data from education technology products, and tools to facilitate data analysis, all the while protecting personal privacy.

- *Synthetic Datasets:* Synthetic datasets represent a 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.

- *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 to increase the rigor of these methods and confidence in the potential causal implications of the results.[1]

- *Interpreting Impacts:* Findings from evaluation studies are often presented in terms of hypothesis testing utilizing p-value cut-offs for determining statistically significant differences, or standardized effect sizes, both of which lack clear practical interpretations. Findings also tend to be reported as a single overall effect, rather than taking into account variation of the effect across clusters or subgroups. Education researchers and consumers of education research need alternative approaches and tools for analyzing and interpreting findings from

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[1] 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.

impact studies, including strategies for determining practically meaningful effect sizes in different contexts. In addition, the field needs guidance on how to implement alternatives to statistical hypothesis testing and the use of p-value cut-offs (including Bayesian methods and other strategies) in a way that produces easily understood interpretations of the findings for consumers.

- *Methods for Synthesizing Qualitative Evidence:* IES's What Works Clearinghouse™ (https://ies.ed.gov/ncee/wwc/) currently synthesizes quantitative impact evaluations (e.g., RCTs, QEDs, SCDs) using a variety of increasingly well-established techniques when developing its Intervention Reports and Practice Guides. Rigorous approaches to synthesizing qualitative evidence, particularly evidence that arises during the implementation of educational interventions, are comparatively less well understood. Research is needed to develop and test these methods, as well as to consider how the resulting syntheses might complement information that arises from quantitative syntheses.

- *Addressing the Disruptions to Research Caused by COVID-19*: Researchers need methods for and guidance on how to address issues both in ongoing studies that were interrupted (e.g., loss of implementation and outcome data or changes in their meaning, loss of power, differences between pre and post-COVID-19 cohorts) and for future work that will need to consider how to include information from the period when major disruptions occurred (e.g., longitudinal studies or comparisons of different time periods).

- *Variability in Effects*: Even now, evaluations of program and policy interventions all too often focus only on average effects, neglecting the substantial variation that is often found. 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. Ultimately, IES seeks to support the collection and dissemination of rigorous and reliable information that will help researchers decide which factors to include in their studies and how best to conduct the corresponding analyses.

- *Replication*: Replication is critical to advancing our understanding of what works. However, the education sciences lack agreement on how a replication or a set of replications can best be designed and how their findings can be best analyzed to determine replication success. Research is needed to develop validated practices and criteria for the design and analysis of future replication studies and the determination of replication success and failure.

- *Supporting the Standards for Excellence in Education Research* (SEER, *https://ies.ed.gov/seer*): As IES promotes SEER, new and improved methods, toolkits, guidelines, compendia, and reviews would help education researchers apply the SEER principles in their work. While work on any of the SEER principles is welcome, as noted above, IES is particularly interested in how to use replications to unpack heterogeneous effects as a means of better identifying what works for whom under what conditions. IES is also particularly interested in how to advance the identification and measurement of core components of interventions.

IES seeks to support the development of new and improved methods, toolkits, guidelines, compendia, and reviews across a wide range of statistical and methodological 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.

C. General Requirements

1. Topics

Your application **must** be directed to one of the following Methods topics listed below and meet the requirements set out for each topic as described in Part II to be sent forward for scientific peer review.

The **Core Grants topic** (previously called Regular Grants topic) supports the development of new and improved statistical and research methods and their dissemination to education researchers through such products as articles in applied education journals, working papers and monographs, software, and toolkits describing how to use them. In addition, the Core Grants topic supports the compilation of existing research and information for a given method into products that help education researchers understand and apply the method. These products include toolkits, guidelines, compendia, and review papers. These products should be tried out by education researchers to ensure their usability, revised as needed, then broadly disseminated.

The **Early Career Grants** topic supports the development of new and improved statistical and research methods by early career researchers (defined as those who have received their doctorate on or after April 1, 2017) with the support of a mentor or advisory panel. Researchers who meet the early career definition can choose to apply under Core Grants or Early Career Grants for support to develop new and improved methods. Early career researchers who wish to compile existing research and information into toolkits, guidelines, compendia, and review papers should apply under Core Grants.

2. Dissemination History and Plan

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, https://ies.ed.gov/funding/researchaccess.asp). 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 so that the findings make meaningful contributions to education research. In addition, applicants are asked to describe their dissemination history to demonstrate their ability and capacity to disseminate research findings to education researchers including those located at colleges and universities, research organizations (for-profit and non-profit), and State and local education agencies. Early career applicants may also discuss how they intend to draw upon the dissemination experience of their mentor or advisers, should the applicant have a limited dissemination history.

Peer reviewers will score Dissemination as a separate criterion in the review process. **Applications that do not contain a Dissemination History and Plan in Appendix A will not be peer reviewed.**

3. Award Limits

Applications to the Methods competition **must** conform to the following limits on award duration and cost.

Topic	Maximum Grant Duration	Maximum Cost
Core Grants	Toolkits, Guidelines, Compendia, and Review Papers: 2 years	$350,000
	New and Improved Methods: 3 years	$900,000
Early Career Grants	2 years	$300,000

D. Getting Started

1. Technical Assistance for Applicants

IES provides technical assistance to applicants that addresses the appropriateness of project ideas for this competition. 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/LOI/LOISubmit, 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/) 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

2. 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 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, Asian American and Native American Pacific Islander-Serving Institutions, Hispanic-Serving Institutions, Historically Black Colleges and Universities, Predominantly Black Institutions, and Native American-Serving, Nontribal Institutions.

The Principal Investigator: The applicant 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 this person should be listed as the PI. All other PIs should be listed as co-principal investigators.

3. RFA Organization and the IES Application Submission Guide

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

1. *This RFA* provides information on how to prepare an application that is compliant and responsive to the requirements. Part I provides an overview of the Methods grant program

and sets out the general requirements for your grant application. Part II provides detail on the specific requirements and recommendations for each topic. Part III provides information about general formatting and the other narrative content for the application, including required appendices. Part IV provides information on competition regulations and the review process. Part V provides **a checklist that you can use to ensure that you have included all required application elements to advance to scientific peer review.** Part VI provides the program codes that you must select from and enter the appropriate code in Item 4b of the SF 424 Application for Federal Assistance form.

2. *The IES Application Submission Guide* (https://ies.ed.gov/funding/pdf/submissionguide.pdf) provides important information about submission procedures and IES-specific guidance and recommendations to help you ensure your application is complete and received without errors on time through Grants.gov.

We strongly recommend that both the PI and the authorized organization representative (AOR) read both documents, whether submitting a new or revised application.

4. Ensuring Your Application is Forwarded for Scientific Peer Review

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.

(a) On-time submission

See the separate IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf)
- Received and validated by Grants.gov no later than 11:59:59 p.m. Eastern Time on August 12, 2021

(b) Compliance

- Includes the **required project narrative** (see Part II)
- Adheres to all formatting requirements (see Part III)
- Adheres to all page limit maximums for the project narratives and appendices. IES will remove any pages above the maximum before forwarding an application for scientific peer review.
- Includes all **required appendices** (see Part III)
  - Appendix A: Dissemination History and Plan
  - Appendix B: Response to Reviewers (resubmissions only)

(c) Responsiveness

- Meets the **General Requirements** for all applications (see Part I.B)
- Meets the **Topics Requirements** for the selected topic (see Part II)

E. Changes in the FY 2022 Request for Applications

All applicants and staff involved in application 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 FY 2022 RFA for the Statistical and Research Methodology in Education

grants program (ALN 84.305D) competition are listed below and described fully in the relevant sections of the RFA.

- The Regular Grants topic has been renamed Core Grants.

- **Expansion of Core Grants**: IES has expanded the Core Grants topic to invite projects that bring together existing research or other information on a statistical or methodological issue into a product accessible and useful for education researchers. Examples of these products include toolkits, guidelines, compendia, and review papers. IES has funded the development of these products through Unsolicited Grants and contracts, as well as through this grant program, and has decided to standardize the process for funding them by specifically calling them out and adding them to the Methods grant program.

- **Raised maximum award under Early Career Grants**: IES has raised the maximum award to $300,000 to support greater collaboration among researchers and allow greater involvement of postdoctoral fellows and graduate students in the work.

Part II: Topic Requirements and Recommendations

A. Applying to a Methods Topic

For the FY 2022 Methods grant program, you **must** submit your application to one of the two topics. For Core Grants there is also a subtopic to submit to. You **must** identify your chosen topic and subtopic for Core Grants on the SF-424 Application for Federal Assistance form (Item 4b) in the Application Package for this competition using the appropriate code (see Part VI: Program Codes), or IES may reject your application as nonresponsive to the requirements of this RFA. IES **strongly encourages** you to contact the relevant program officer to discuss the appropriateness of your proposed program for submission under a specific Methods topic.

The topics and subtopics differ by the type of work to be done, personnel, maximum funding amount, and maximum duration. All topics support the development of statistical and methodological products that can be used by education researchers to improve the type of research that NCER supports through its research grant programs.

To be sent forward for scientific peer review, you must -
- **Meet the general requirements** outlined in Part I.B
- **Meet relevant topic requirements** listed here in Part II

For each topic, refer to -
- The **Purpose section** for the types of research supported
- The **Requirements section** for the specific content that you must address in the project narrative to be sent forward for scientific peer review
- The **Award Limits section** for duration and cost maximums
- The **Recommendations for Strong Applications section** for recommendations to improve the quality of your application. IES asks the peer reviewers 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.

Each topic is linked to the program page on the IES website where you can find more information and view the abstracts of previously funded projects.

B. Core Grants

1. Purpose

IES established the Core Grants topic to support the development of new and improved statistical and research methods to improve education research. These new and improved methods are disseminated to education researchers through different types of products such as articles in applied education journals, detailed working papers and monographs, and software developed for education researchers.

For the FY 2022 competition, IES has expanded the Core Grants topic to include support for developing products that bring together the existing research and information available on a specific method for use by education researchers in their own research. These products may include toolkits, guidelines, compendia, and review papers.

With this expansion, the Core Grants topic now supports the development of new and improved methods as it has in the past, and it specifically supports the compilation of existing research and information into such products as toolkits, guidelines, compendia, and review papers.

In addition to developing methodological products, applicants are required to describe how they will conduct end-user-testing to determine whether education researchers can use them and to make revisions in response to feedback if needed. Applicants are also required to discuss how they will disseminate their products and make them widely available to education researchers.

2. Requirements

The project narrative **must** adhere to the font guidelines (see Part III.B) and be **no more than 22 pages**. If the narrative exceeds this page limit, IES will remove any pages after the 22nd page of the narrative. The project narrative **must** include four sections: Significance, Research Plan, Personnel, and Resources.

(a) Significance

The purpose of this section is to describe your research aims while providing a compelling rationale for the development of a new or improved method or the development of a product that brings together the available research and information on a method.

You **must describe** –
- The statistical and/or methodological product(s) you will develop
- How it will help solve practical problems encountered by education researchers
- How it will be easy to obtain and use by education researchers

(b) Research Plan

The purpose of this section is to describe how you will develop and test the proposed statistical and/or methodological product(s) as well as check its usability by education researchers.

You **must describe** your plans and methods for –
- Developing the proposed statistical and/or methodological product(s)
- Determining that product conveys the appropriate information or works as intended
- Determining that education researchers can use it

(c) Personnel

The purpose of this section is to describe the relevant expertise and experience, responsibilities, and time commitments of the PI and any other key personnel.

You **must describe** your project team.

(d) Resources

The purpose of this section is to describe the institutional resources to support the PI in successfully completing this project and disseminating the results.

You **must** describe the resources available to support you in conducting the proposed project.

3. Award Limits

A Core Grants project **must** conform to the following limits on duration and cost.

(a) Duration Maximums:

The maximum duration of a Core Grant to develop a new or improved method is **3 years.**

The maximum duration of a Core Grant to develop toolkits, guidelines, compendia, and review papers based on compiling the existing research and information available on a specific method is **2 years.**

(b) Cost Maximums:

The maximum cost for a Core Grant to develop a new or improved method is **$900,000** (total cost = direct costs + indirect costs).

The maximum cost for a Core Grant to develop toolkits, guidelines, compendia, and review papers based on compiling the existing research and information available on a specific method is **$350,000** (total cost = direct costs + indirect costs).

4. Recommendations for a Strong Application

In order to improve the quality of your application, IES offers recommendations following each set of the Program Narrative requirements. The peer reviewers are asked to consider these recommendations in their evaluation of your application.

(a) Significance

Describe the specific statistical or methodological issue or problem that your work addresses.

Discuss the overall importance of this issue/problem to the improvement of applied education research, the overall importance of its solution, and its relevance to the type of education research IES funds.

For **new and improved methods**

- Describe current methods used to address this issue or problem and explain why current practice is not satisfactory.

- Describe the new or improved method you propose to develop. Contrast this with current typical practice and its identified shortcomings. A detailed description will show how your new or improved method 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/or (c) it will be easier for education researchers to use.

- Describe what products will be developed that will allow education researchers to make use of the new or improved method (e.g., an article written for education researchers, software, a toolkit).

- Discuss how the product(s) will be used by education researchers to improve the designs of their studies, analyses of their data, and/or interpretations of their findings.

- If you propose to further develop a method 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.

For **toolkits, guidelines, compendia and review papers**

- Describe the products you intend to develop (e.g., toolkits, guidelines, compendia, review papers).

- Describe the method that the products will help education researchers use in their own research.

- Justify why this product is needed to improve education research. Your justification might include recent changes in the existing available research, the availability and quality of similar products now available, and the current state of practice among education researchers.

- Discuss how the product(s) will be used by education researchers to improve the designs of their studies, analyses of their data, and/or interpretations of their findings.

In [Appendix A: Dissemination History and Plan](#), describe how you will make the product(s) widely available to education researchers in a variety of sectors (academia, government, non- and for-profit) and prior successes in disseminating the findings and products from your work.

(b) Research Plan

Explain the major activities and sequence of steps you will follow to develop the product(s). If you are building on a product that is currently available, be clear about what you are changing or enhancing.

For **new and improved methods**

- If you propose to collect data, you should describe the sample (including criteria for inclusion and 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 Methods 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.

- Your data analytic plan should have sufficient detail to permit reviewers to judge the appropriateness and adequacy of the plan for addressing, as applicable, the hypotheses or research questions. You should include an explicit discussion of how any missing data will be handled within the statistical analyses.

For **toolkits, guidelines, compendia and research papers**

- Identify the currently available research or other information that you will be drawing upon to develop your product.

- Describe the process and methods you will use to develop the statistical or methodological product. Specifically, how will you develop the toolkit, guidelines, compendium, and/or review paper.

- Should you need to do any data collection or analysis as part of the development of your product, describe the data needed, how they will be obtained, and the analyses to be done.

- Should you need to hold consensus or advisory panels for the development of your product, describe who will be represented on those panels (include letters of agreement if possible in Appendix E), how the panels will function, and how decisions will be made.

For all projects

- As you describe the end-user-testing to determine whether education researchers can successfully use the product(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 product(s) and how feedback from this process will be used to revise the product.

(c) Personnel

Identify and briefly describe the relevant expertise of all key personnel, including the PI, Co-PIs, Co-Investigators, and any consultants on the project team regardless of whether they are located at the primary applicant institution or a subaward institution.

- Describe their roles and responsibilities on the project
- Provide the proportion of time personnel will devote to the project, expressed as percent effort over a 12-month calendar year
- Note personnel with experience in producing similar methods products
- Identify previous success at disseminating research findings and products to education researchers

In its research grant programs, IES is strongly committed to broadening participation, including personnel from underserved communities and diverse institutions. Describe how the background and experience of the project team supports the successful conduct of the proposed work.

If you have previously received a Methods grant award, you should indicate the results of your past work, its dissemination, and its use by education researchers. Discuss how the collective research expertise and experience of your team align with and support the content and methodological focus of your proposed Methods project.

(d) 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 statistical and methodological product(s). For example, identify education researchers willing to try the product in their work or in their courses in which students will use and critique it.

Describe your resources, including access to specific offices and organizations, to carry out your plans to disseminate results as described in the required dissemination plan in Appendix A.

C. Early Career Grants

1. Purpose

IES established the Early Career Grants topic to encourage a new generation of education researchers to address statistical and methodological issues and challenges in education research and to develop statistical and methodological products that will benefit the education sciences. The Early Career Grants topic supports the development of new and improved statistical and research methods by early career researchers (defined as those who have received their doctorate on or after April 1, 2017) with the support of a mentor or advisory panel. Researchers who meet the early career definition can choose to apply under Core Grants or Early Career Grants for support to develop new and improved methods. Early career researchers who wish to compile existing research and information into such products as toolkits, guidelines, compendia, and review papers should apply under Core Grants.

> **Early Career Grants**
> are for early career researchers to develop new and improved statistical and research methods with the assistance of a mentor or

2. Requirements

The project narrative **must** adhere to the font guidelines (see Part III.B) and be **no more than 22 pages**. If the narrative exceeds this page limit, IES will remove any pages after the 22nd page of the narrative. The project narrative **must** include four sections: Significance, Research Plan, Personnel, and Resources.

(a) 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 improvement of an existing one.

You **must describe** –
- The statistical and/or methodological product(s) you will develop
- How it will help solve practical problems encountered by education researchers
- How it will be easy to obtain and use by education researchers

(b) Research Plan

The purpose of this section is to describe how you will develop and test the proposed statistical and/or methodological product(s) as well as check its usability by education researchers.

You **must describe** your plans and methods for –
- Developing the proposed statistical and/or methodological product(s)
- Determining that it works as intended
- Determining that education researchers can use it

(c) Personnel

The purpose of this section is to describe the relevant expertise and experience, responsibilities, and time commitments of the PI and any other key personnel.

You **must describe** –
- Your project team
- The date of your doctorate (To be eligible, you must have received it on or after April 1, 2017.)
- Your dissertation chair
- Your research mentor or advisory panel members who will collaborate with you on the project (The mentor or adviser cannot have served as your dissertation chair.)

(d) Resources

The purpose of this section is to describe the institutional resources to support the PI in successfully completing this project and disseminating the results.

You **must** describe the resources available to support you in conducting the proposed project.

3. Award Limits

An Early Career Grants project **must** conform to the following limits on duration and cost.

(a) Duration Maximums

The maximum duration of an Early Career Grants project is **2 years.**

(b) Cost Maximums

The maximum award for an Early Career Grants project is **$300,000** (total cost = direct costs + indirect costs).

4. Recommendations for a Strong Application

In order to improve the quality of your application, IES offers recommendations following each set of the Program Narrative requirements. The peer reviewers are asked to consider these recommendations in their evaluation of your application.

(a) Significance

Describe the specific statistical or methodological issue or problem that your work addresses.

Discuss the overall importance of this issue/problem to the improvement of applied education research, the overall importance of its solution, and its relevance to the type of education research 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 and/or methodological product(s) you will develop (e.g., new and improved methods, toolkits and/or software to apply them). Contrast this with current typical practice and its identified shortcomings. A detailed description will clearly show that your product(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/or (c) education researchers will be able to use it.

If you propose to further develop a statistical or methodological product 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 product(s) will be used by education researchers to improve the designs of their studies, analyses of their data, and/or interpretations of their findings.

In Appendix A: Dissemination History and Plan, describe how you will make the product(s) widely available to education researchers in a variety of sectors (academia, government, non- and for-profit) and prior successes in disseminating the findings and products from your work.

(b) Research Plan

Explain the major activities and sequence of steps you will follow to develop the product(s). If you are building on a product 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 and 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 Methods 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.

Your data analytic plan should have sufficient detail to permit reviewers to judge the appropriateness and adequacy of the plan for addressing, as applicable, 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 education researchers can successfully use the product(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 product(s) and how feedback from this process will be used to revise the product.

(c) Personnel

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 mentor's 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.

Identify and briefly describe the relevant expertise of all key personnel, including the PI, Co-PIs, Co-Investigators, and any consultants on the project team regardless of whether they are located at the primary applicant institution or a subaward institution.
- Describe their roles and responsibilities on the project.
- Provide the proportion of time personnel will devote to the project, expressed as percent effort over a 12- month calendar year.
- Note personnel with experience in producing similar methods products.
- Identify previous success at disseminating research findings and products to education researchers.

In its research grant programs, IES is strongly committed to broadening participation, including personnel from underserved communities and diverse institutions. Describe how the background and experience of the project team supports the successful conduct of the proposed work.

If you have previously received a Methods grant award, you should indicate the results of your past work, its dissemination, and its use by education researchers.

(d) 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 statistical methodological product(s). For example, identify education researchers willing to try the product in their work or in their courses in which students will use and critique it.

Describe your resources, including access to specific offices and organizations, to carry out your plans to disseminate results as described in the required dissemination plan in Appendix A.

Part III: Preparing Your Application

A. Overview

The application contents–individual forms and their PDF attachments–represent the body of an application to IES. IES encourages you to refer to the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for additional information about preparing to submit your application and ensuring your application is sufficient.

B. General Formatting

To ensure that reviewers can read your application and that all applicants have similar expectations for length and space, IES specifies the following formatting conventions. 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. These requirements apply to the PDF file as submitted, unless otherwise specified. In order for an application to be compliant and sent forward for review, the applicant should ensure that each narrative section follows both the page limit maximums and the formatting guidelines below unless otherwise specified.

1. Page and Margin Specifications
For all IES grant applications, a "page" is 8.5 in. x 11 in. on one side only with 1-inch margins at the top, bottom, and both sides.

2. Page Numbering
Add page numbers using the header or footer function and place them at the bottom or upper right corner for ease of reading.

3. Spacing
Text must be single spaced.

4. 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 six lines of type within a vertical inch.

You 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. Small type size makes it difficult for reviewers to read the application; consequently, the use of small type will be grounds for IES to return the application without scientific peer review. Adherence to these requirements also is necessary to ensure that no applicant will have an unfair advantage by using smaller type or line spacing to provide more text in the application.

As a practical matter, if you use a 12-point Times New Roman font without compressing, kerning, condensing, or other alterations, and use footnotes sparingly, if at all, the application will typically

meet these requirements. Readability should guide your selection of an appropriate font and your use of footnotes.

5. *Citations*

Use the parenthetical author-date style for citations (see for example the American Psychological Association, 2009) rather than numeric citations that correspond to the reference list.

6. *Graphs, Diagrams, and Tables*

IES encourages you to use black and white in graphs, diagrams, tables, and charts. If color is used, you should ensure that the material reproduces well when printed or photocopied in black and white.

Text in figures, charts, and tables, including legends, may be in a type size smaller than 12-point but must be readily legible.

C. Required and Optional Appendices

The required project narrative (Significance, Research Plan, Personnel, and Resources) that is described for each topic (see Part II: Topic Requirements) 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 required and optional 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 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/).

The project narrative and appendices are critical parts of the IES application because they include the substantive content that will be reviewed for theoretical and practical significance and scientific merit.

1. *Appendix A: Dissemination History and Plan (Required)*

You **must** include Appendix A after the project narrative. Appendix A includes two sections: Dissemination History and Dissemination Plan. Appendix A **must** meet the general formatting guidelines and be **no more than three pages**, including one page for the Dissemination History and two pages for the Dissemination Plan. If Appendix A exceeds this three-page limit, IES will remove any pages after the third page of the appendix before it is forwarded for scientific peer review.

(a) Dissemination History for Methods Grant Program

The dissemination history is intended to demonstrate that the methods research you have conducted in the past have been disseminated to education researchers. Early Career applicants may have a limited dissemination history. They may describe their own dissemination history plus how they intend to draw upon the dissemination experience of their mentor or advisers. Applicants who have never had an IES grant should focus on the dissemination history of their other methods research. Reviewers will use this information to determine whether the project personnel have the dissemination experience commensurate with their research career stage (early, middle, or late) necessary to carry out the proposed dissemination plan.

The dissemination history should include the following:
- A brief description of the outcomes of prior research, including products developed or tested and how the project's findings and products were disseminated
- For products that were developed through one or more projects, an explanation for how it has been made available to users, the number of active users of the product, the number of users of the product during its history, and funding agreements or outside investments for commercialization (if applicable)
- Other unique dissemination products or notable methods presentations

(b) Dissemination Plan for Methods Grant Program

Describe your plan to disseminate methodological and statistical products from the proposed project. Dissemination plans should be tailored to the audiences that will benefit from the products and reflect the unique purposes of the project. Identify the audiences that you expect will most likely benefit from your research such as education researchers and other methods researchers who might further develop your product(s). Describe how you will reach education researchers working in different sectors (e.g., academia; federal, State, and local government; and non- and for-profit).

Discuss the different ways in which you intend to reach these audiences. IES-funded researchers are expected to publish and present in venues designed for education researchers in a manner and style useful and usable to this audience. Examples include the following:
- Give presentations and workshops to education researchers.
- Post software and relevant user's guides, detailed working papers, toolkits, guidelines, compendia, and review papers to a readily accessible website.
- Publish in journals for applied education research.
- Announce the availability of the project's products in forums visited by education researchers (e.g., blogs, tweets, newsletters, press releases to researcher organizations).
- Engage in dissemination activities with relevant IES-funded Research and Development (R&D) Centers (https://ies.ed.gov/ncer/research/randdCenters.asp), Research Networks (https://ies.ed.gov/ncer/research/researchNetworks.asp), or Regional Educational Laboratories (RELs) (https://ies.ed.gov/ncee/edlabs/).

IES-funded researchers who develop statistical and methodological products for use in research 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.

The Dissemination History and Plan is the only information that may be included in Appendix A; all other materials will be removed prior to review of the application.

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. Appendix B **must** meet the general formatting guidelines and be **no more than three pages**. If Appendix B exceeds this page limit, IES will remove any pages after the third page of the appendix before it is forwarded for scientific peer review. Note that an application that was previously submitted to a different topic within this competition or to another IES grant competition is still considered a resubmission.

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 is the only information that should be included in Appendix B; all other material will be removed prior to review of the application.

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

Appendix C **must** meet the general formatting guidelines and be **no more than 15 pages**. If Appendix C exceeds this page limit, IES will remove any pages after the 15th page of the appendix before it is forwarded for peer review.

In Appendix C, you may include figures, charts, or tables with supplementary information such as a timeline for your research project, a diagram of the management structure of your project, a table of the research available for use in a synthesis, examples of measures to be collected, or a table of the variables available in a secondary data set. These are the only materials that may be included in Appendix C; all other material will be removed prior to review of the application.

4. Appendix D: Examples of Statistical and Methodological Products (Optional)

Appendix D **must** meet the general formatting guidelines and be **no more than 10 pages**. If Appendix D exceeds this page limit, IES will remove any pages after the 10th page of the appendix before it is forwarded for scientific peer review.

In Appendix D, you may include examples of the product that you intend to develop or of an existing product that you intend to further develop (for example, screenshots of software, user manuals, exemplar templates for a toolkit). These are the only materials that may be included in Appendix D; all other material will be removed prior to review of the application

5. Appendix E: Letters of Agreement (Optional)

There is **no recommended page length** for Appendix E. Use this appendix to provide copies of letters of agreement from persons or organizations who will provide data for the proposed research, individuals serving as consultants, and the mentor or advisory board members for Early Career Grants. If you know who will serve as the education researchers who will try out the product and provide feedback, you can include letters from them as well. 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 (https://ies.ed.gov/funding/pdf/submissionguide.pdf) 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. 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 may be included in Appendix E; all other material will be removed prior to review of the application.

IES understands that, **due to institution closings associated with COVID-19, you may have difficulty providing letters**. If you are unable to provide these letters in your application, include a description in Appendix E of why you were not able to obtain letters and your plan for securing them if your application is recommended for funding. NOTE: Special conditions may be placed on the grant awards if these letters are not received before the award date. Reviewers will be instructed to not penalize applicants for failure to include letters of agreement due to the coronavirus pandemic.

D. Other Narrative Content

In addition to the project narrative (see Part II: Topic Requirements) and required and optional Appendices (see above), you will also prepare a project summary/abstract, a bibliography and references cited, an exempt or non-exempt research on human subjects narrative, and biosketches for key personnel and consultants to include as file attachments in your application. 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 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**: Distinct, descriptive title for the project.
- **Topic:** Identify the RFA (Statistical and Research Methodology in Education) and the topic to which you are applying (Core Grants – Toolkits and Guidelines, Syntheses, or New and Improved Methods; Early Career Grants). The topic information should match the topic code entered for Item 4b: Agency Routing Number on the SF 424 Application for Federal Assistance form (see Part VI and the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf).
- **Purpose**: A brief description of the purpose of the project and its significance for improving statistics and research methodology in education research
- **Products**: A brief description of the statistical and/or methodological product(s) (new or improved method, toolkit, software, guidelines, compendia, review papers, articles) the research team will develop (IES is particularly interested in toolkits as a way of increasing the use of new and improved methods in applied education research.)
- **Research Design and Methods**: a brief description of the major features of the design and methods to be used (e.g., synthesis technique, Monte Carlo simulation, secondary data analysis, iterative design process)
- **User Testing**: A brief description of how education researchers will try out your product to determine if they can use it
- **Dissemination:** A brief description of how your product will be made easily accessible to education researchers
- **Use in Applied Education Research:** A brief description of how your product is to be used in applied education research and is expected to improve it
- **Related Projects:** A list of any other completed or on-going IES-funded projects that are related to this one, noting the title of the related IES project and providing a link to the online IES abstract, where *related* refers to a project that you are drawing upon or building on as part

of your proposed project (not one that only addresses the same method that your propose to work on)

Please see online summary/abstracts (https://ies.ed.gov/funding/grantsearch) of previous and current Methods grants for examples of the content to be included in your 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 and journal, chapter and 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* (https://www2.ed.gov/policy/fund/guid/humansub/hrsnarrative1.html) for a brief overview of principles, regulations, and policies which affect research involving human subjects in research activities supported by the Department of Education.

Note that the Revised Common Rule is now in effect with changes that will affect Institutional Review Board (IRB) review of your proposed research protocol. Take care to address how changes to exemption and continuing review procedures and the use of a single IRB will be addressed should your application be recommended for funding.

The U.S. Department of Education does not require certification of IRB 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 from the Department.

4. Biographical Sketches for Key Personnel

You **must** submit a biographical sketch (an abbreviated CV plus information about current and pending support) for each person named as key personnel in your application. You may also submit biographical sketches for consultants (optional). Each biographical sketch with current and pending support information **must be no more than five pages in length**. If a biographical sketch exceeds this page limit, IES will remove any pages after the fifth page before it is forwarded for scientific peer review.

Biographical sketches are submitted as separate PDF attachments in the application package. IES strongly encourages applicants to use SciENcv (https://www.ncbi.nlm.nih.gov/sciencv/) where you will find an IES biosketch form. IES will accept the SciENcv format for your biographical sketch even though it does not adhere exactly to our general formatting requirements. You may also develop your own biosketch format.

Provide a list of current and pending grants for the principal investigator, each co-principal investigator, and other key personnel, along with the proportion of their time, expressed as percent **effort over a 12-month calendar year**, allocated to each project. Include the proposed IES grant as one of the pending grants in this list. If you use SciENcv, the information on current and pending support will be entered into the IES biosketch template. If you use your own format, you will need to provide this information in a separate table.

The biographical sketch for the principal investigator, each co-principal investigator, other key personnel and consultants (if included) should show how members of the project team possess the experience and expertise commensurate with their specified duties on the proposed project, for example by describing relevant publications, grants, research, and dissemination experience.

Be sure to include your ORCID iD (Open Researcher and Contributor, https://orcid.org/) if you have one and consider establishing one if you have yet to do so.

Part IV: 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 Requirements. IES will not make an award exceeding the relevant maximum grant duration and/or award amount.

3. Special Considerations for Budget Expenses

(a) 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. Please note that the Indirect Cost Group (ICG) in the U.S. Department of Education's Office of the Chief Financial Officer will not be available for assistance during the application preparation process. If your institution does not have an indirect cost rate and you receive a grant from IES, the ICG group can help with obtaining an indirect cost rate once the grant is awarded.

Most institutions that do not have a current negotiated rate may use a de minimis rate of 10 percent of modified total direct costs (see 2 CFR 200.414 https://www.ecfr.gov/cgi-bin/text-idx?node=se2.1.200_1414&rgn=div8 for more information). This de minimis rate may be used indefinitely and no documentation is required to justify its use. Institutions, both primary grantees and subawardees, not located in the territorial United States may not charge indirect costs.

(b) 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 (https://www.ecfr.gov/cgi-bin/text-idx?SID=dcd3efbcf2b6092f84c3b1af32bdcc34&node=se2.1.200_1432&rgn=div8).

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, 85, 86 (part 86 applies only to institutions of higher education), 97, 98, and 99 and 2 CFR 3485. 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 Requirements

1. Pre-Award

(a) Clarification and Budget Questions

IES uses the peer review process as the first step in making funding decisions. If your application is recommended for funding based on the outcome of peer review, an IES program officer will contact you to clarify any issues that were raised by the peer reviewers and to address whether the proposed budget adequately supports the scope of work and meets federal guidelines.

(b) Demonstrating Access to Data or Education Settings

The research you propose to conduct under a specific topic may require that you have (or will obtain) access to education settings for data collection, 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.

(1) 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.

(2) Using secondary data sets
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.

(3) 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 principal investigator 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 principal and co-principal investigators) regarding roles, responsibilities, access to data, publication rights, and decision-making procedures.

(c) Assessment of Past Performance

IES considers the applicant's performance and use of funds under a previous federal award as part of the criteria for making a funding decision. Performance on previous Department of Education awards is considered as is additional information that may be requested from the applicant, including compliance to the IES Public Access Policy (applicable for all grants funded from 2012 to present https://ies.ed.gov/funding/researchaccess.asp).

2. Post Award

(a) Compliance with IES Policy on Public Access to Data and Results

IES requires all grantees to submit the electronic version of peer-reviewed scholarly publications to ERIC (https://eric.ed.gov/), 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 (https://ies.ed.gov/funding/researchaccess.asp) 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. **As the designated representative for the grantee institution, IES holds the principal investigator**

responsible for ensuring that authors of publications stemming from the grant comply with this requirement.

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 (https://eric.ed.gov/submit/), as well as a Frequently Asked Questions page (https://eric.ed.gov/?granteefaq). 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).

(b) 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.

(c) Attendance at the Annual IES Principal Investigators Meeting

The PI is required to attend one meeting each year (for up to 3 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 project to attend.

C. 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 competition 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.

Elements of a Letter of Intent:
- Descriptive title
- Topic that you will address
- Brief description of the proposed project and the product you will develop

- Name, institutional affiliation, address, telephone number, and email address of the principal investigator and any co-principal investigators
- 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 IES's previous 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, https://ies.ed.gov/funding/pdf/submissionguide.pdf) that the FY 2022 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 2022 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 the FY 2022 application is a new application. In Appendix B, you should provide a rationale explaining why the FY 2022 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 2022 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 2022 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 12, 2021 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 (https://ies.ed.gov/funding/pdf/submissionguide.pdf) 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 1 to 2 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 4 to 6 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 (https://ies.ed.gov/funding/pdf/submissionguide.pdf) 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/application_review.asp) by a panel of experts 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 review panels (https://ies.ed.gov/director/sro/peer_review/reviewers.asp). Applications are assigned to panel according to the match between the overall expertise of reviewers on each panel and the content and methodological approach proposed in each application.

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 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. The specific purpose of IES-supported Methods projects is to support this contribution by developing statistical and methodological products for education researchers to use in their research. In doing so, IES aims to increase the quality, accessibility, use, and relevance of education research. IES expects reviewers to assess the scientific rigor and practical significance of the research proposed in order to judge the likelihood that it will make a meaningful contribution to the larger IES mission. Information pertinent to each of these criteria is described in Part II: Topic Requirements.

(a) Significance

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

(b) Research Plan

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

(c) Personnel

Does the applicant address recommendations described in the Personnel section for the topic under which the applicant is submitting the application? Do the principal investigator, project director, and other key personnel possess appropriate expertise and experience and will they commit sufficient time to competently implement the proposed research?

(d) Resources

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

(e) Dissemination

Does the applicant address recommendations described in Appendix A: Dissemination History and Plan? Does the applicant present a dissemination plan that is tailored to audiences that will benefit from the findings and reflects the purpose of the project? Does the applicant describe a dissemination history that demonstrates past success in sharing results of education research widely and appropriately?

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 methods development described in this request for applications
- Ability to carry out the proposed methods development within the maximum award and duration requirements
- Availability of funds

Part V: Compliance and Responsiveness Checklist

Only compliant and responsive applications will be forwarded for scientific peer review. 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.

	Compliance
	Have you included a project narrative?
	Do the project narrative and other narrative content adhere to all formatting requirements (Part III.B)?
	Do the project narrative and other narrative content adhere to all page maximums as described in the RFA? IES will remove any pages above the maximum before forwarding an application for scientific peer review.
	Have you included Appendix A: Dissemination History and 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 (Part I.B)?
	• 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>Core Grants</u>	<u>Early Career Grants</u>
Significance	You must describe • the statistical and/or methodological product(s) you will develop • how it will solve practical problems encountered by education researchers • how it will be easy to obtain and use by education researchers	You must describe • the statistical and/or methodological product(s) you will develop • how it will solve practical problems encountered by education researchers • how it will be easy to obtain and use by education researchers
Research Plan	You must describe your research design, methods, and plan for • developing the statistical and/or methodological product(s) • determining that it works as intended • determining that education researchers can use it	You must describe your research design, methods, and plan for • developing the statistical and/or methodological product(s) • determining that it works as intended • determining that education researchers can use it
Personnel	You must describe your project team	You must describe your project team Provide the date of the PI's doctorate (to be eligible, it must have been received on or after April 1, 2017) Identify the PI's dissertation chair 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
Resources	You must describe your resources to conduct the project	You must describe your resources to conduct the project

Part VI: Topic Codes

Applications to the **Statistical and Research Methodology in Education** grant program **(ALN 84.305D)** are submitted under a single topic (Core or Early Career). In addition, applications under Core Grants are also submitted to one of two subtopics (Toolkits/Guidelines/Compendia/Reviews and New and Improved Methods). You must enter the appropriate topic code (and subtopic code if appropriate) in Item 4b of the SF 424 Application for Federal Assistance form (see the IES Application Submission Guide, https://ies.ed.gov/funding/pdf/submissionguide.pdf, for more information about this form). For example, an application to the Core Grants topic to create a toolkit should have the code "NCER-Core- Toolkits/Guidelines/Compendia/Reviews" entered in the field for Item 4b.

Topics	Codes
Core Grants	NCER-Core-Toolkits/Guidelines/Compendia/Reviews
	NCER-Core-New and Improved Methods
Early Career Grants	NCER-Early Career