Education Research and Development Center Program

CFDA Number: 84.305C

A Product of the National Center for Education Research

Letter of Intent Due:	June 11, 2020	https://iesreview.ed.gov/LOI/LOISubmit
Application Package Available:	June 11, 2020	https://www.grants.gov/
IES Submission Guide Available:	April 1, 2020	https://ies.ed.gov/funding/pdf/submissionguide.pdf
Application Deadline:	11:59:59 p.m. Eastern Time on August 20, 2020	https://www.grants.gov/
Possible Start Dates:	July 1 - September 1, 2021	

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Part I: Overview and Requirements

A. Purpose of the Education Research and Development Centers Program

Through its National Center for Education Research (NCER), the Institute of Education Sciences (IES) supports a sustained program of research to build knowledge and understanding of education practice and policy. The program's four intended outcomes are -

1. Improved access to a high-quality education for all learners from early childhood through adulthood, particularly those at risk of failure

2. Improved academic achievement for all learners from early childhood through adulthood, particularly those at risk of failure

3. Reduced opportunity and achievement gaps between high-performing and low-performing learners

4. Improved access to, persistence in, progress through, and successful completion of postsecondary education

Through this Request for Applications (RFA), IES invites applications for a research center that will contribute to its Education Research and Development Center program (CFDA 84.305C). Under the Education Sciences Reform Act of 2002, IES supports National Research and Development Centers (R&D Centers) that conduct focused, scientific research on key education issues that face our nation. Through this program, researchers have greater resources than are available through the Education Research Grants program to tackle more complex education problems, create innovative education solutions to these problems, and contribute to knowledge and theory in the education sciences. For information on existing IES R&D Centers, please see https://ies.ed.gov/ncer/research/randdCenters.asp.

For the FY 2021 Education Research and Development Center competition, IES invites applications for an R&D Center in Improving Teaching and Learning in Postsecondary Institutions. This R&D Center will be responsible for
- Contributing to the solution of a specific education problem and to the generation of new knowledge and theories relevant to improving postsecondary learning outcomes
- Providing national leadership and capacity building for postsecondary teaching and learning by disseminating research and engaging with developers, researchers, practitioners, and policymakers in order to advance evidence-based policy and practice
- Conducting relatively rapid research and scholarship on supplemental questions that emerge within postsecondary teaching and learning

B. Requirements

1. Education Outcomes

All research supported under the R&D Centers program **must** measure academic outcomes.

(a) Academic Outcomes

IES is interested in the following academic outcomes for **postsecondary education:** access to, persistence in, progress through, and completion of postsecondary education, which includes developmental education courses and bridge programs as well as programs that lead to occupational certificates, associate's, or bachelor's degrees; and learning, achievement, and higher order thinking in postsecondary courses.

(b) Optional Outcomes - Recommended when Appropriate

In addition to a required academic outcome, applicants may propose to include additional outcomes relevant to their research focus. IES supports research on range of additional, optional outcomes and recommends their inclusion when appropriate. All research proposals that include optional outcomes must also include an academic outcome. Below is a list of the optional outcomes applicants may propose.

(1) Career and technical education (CTE) attainment
CTE attainment is defined as an indicator of mastery of CTE content or skills such as CTE course grades or credits earned, technical skills, assessment scores, industry certification, or employment outcomes in a field related to the CTE training.

(2) Employment and earnings outcomes
Employment and earning outcomes are defined as measures of labor force engagement, such as hours of employment, job stability, and wages and benefits.

(3) Social and Behavioral Competencies
Social and behavioral competencies are defined as social skills, attitudes/emotions, and behaviors that are important to learners' success in school and beyond.

(4) Educator Outcomes
Educator outcomes are defined as measures of educator knowledge, skills, beliefs, behaviors, and/or practices.

2. Education Settings

Proposed research **must** be relevant to education in the United States and **must** address factors under the control of the U.S. education system. For the focus of this R&D center, education settings may include community and technical colleges and 4-year colleges and universities. Each of these settings may be brick-and-mortar or be partially or fully distance learning or online programs. IES does not support research that is relevant only in informal contexts outside of education systems and outside the control of education agencies. Contact the IES program officer if you have questions about the education setting(s) you have identified for your proposed research.

3. R&D Center Topic Requirements

For the FY 2021 Education Research and Development Center competition, you **must** meet the requirements outlined in Part II.

4. Award Limits

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

Topic	Maximum Grant Duration	Maximum Grant Award
Improving Teaching and Learning in Postsecondary Institutions	5 years	$10,000,000

C. Getting Started

1. Technical Assistance for Applicants

IES provides technical assistance (TA) to applicants that addresses the appropriateness of project ideas for this competition and methodological and other substantive issues concerning research in education settings. IES program officers work with applicants though a variety of formats up until the time of Grants.gov submission. If you submit a letter of intent (LOI) at https://iesreview.ed.gov/LOI/LOISubmit, a program officer will contact you regarding your proposed project. IES also provides funding opportunities resources, including webinars, (https://ies.ed.gov/funding/webinars/index.asp) that include advice on choosing the appropriate competition, grant writing, and submitting your application.

The program officer for this competition is Dr. Meredith Larson. You can reach her at Meredith.Larson@ed.gov and (202) 245-7037.

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 grant programs. IES encourages applications from minority-serving institutions (MSIs), alone or in combination with other institutions, that meet the eligibility criteria for this RFA. MSIs include Alaska Native and Native Hawaiian-Serving Institutions, American Indian Tribally Controlled Colleges and Universities, 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

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

1. *This RFA* – to learn how to prepare an application that is compliant and responsive to the requirements. Part I sets out the general requirements for an R&D grant application. Part II provides information about the requirements for the R&D Center Topic. Part III provides information about general formatting and the other narrative content for the application, including required appendices. Part IV provides general information on competition regulations and the review process. Part V provides a checklist that you can use to ensure you have included all required application elements to advance to scientific peer review.

2. *The IES Application Submission Guide*[1] (https://ies.ed.gov/funding/pdf/submissionguide.pdf) – for important information about submission procedures and IES-specific guidance and recommendations to help you ensure your application is complete and received without errors on time through Grants.gov.

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

4. Ensuring Your Application is Reviewed

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 20, 2020.

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

(b) Compliance

- Includes the **required R&D center 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 peer review.
- Includes all **required Appendices** (see Part III)
  - Appendix A: Data Management Plan (Required)
  - Appendix B: Response to Reviewers (Resubmissions only)

c) Responsiveness
- Meets **General Requirements** (see Part I).
- Meets **R&D Center Narrative Requirements** (see Part II).

D. Changes in the FY 2021 RFA

All applicants and staff involved in proposal preparation and submission, whether submitting a new application or submitting a revised application, **should carefully read all relevant parts of this RFA**. Major changes to the Education Research and Development Center program (CFDA 84.305C) competition in FY 2021 are listed below and described fully in relevant sections of the RFA.

- **Topic.** The FY 2021 R&D Center competition is inviting applications in one topic area: Improving Teaching and Learning in Postsecondary Institutions.
- **Cost analysis and Cost Effectiveness Analysis.** IES has added additional guidance on the cost analysis and cost effectiveness analysis. IES requires cost analysis plans for all projects that propose to develop an innovation. IES requires a cost analysis plan and a cost-effectiveness plan for all projects that propose to test the impact of an innovation.
- **Length of Abstract has increased**. IES now requests a two-page project summary/abstract instead of a one-page abstract. See part Part III.D.1. for details about what to include in your abstract.
- **Changes due to COVID-19.** IES encourages applicants to submit letters of agreement to participate in the proposed research from education setting partners as an appendix to the required project narrative. IES understands that, due to school closings associated with COVID-19, you may have difficulty providing letters from schools, districts, and other education sites that would participate in or provide data for the proposed research. 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.
- **Page limits, including reduction in project narrative length, and formatting guidelines.** IES has page limits for the project narrative and some appendices. If the project narrative or an appendix exceeds the limits discussed in this RFA, IES will remove any pages after the maximum for the project narrative or appendix. IES also has formatting guidelines, as discussed in Part IV.B that applicants must attend to.

Part II: R&D Center Topic Requirements and Recommendations

A. Improving Teaching and Learning in Postsecondary Institutions

Program Officer: Dr. Meredith Larson (202-245-7037; Meredith.Larson@ed.gov)

1. Purpose

IES seeks to establish a National Research and Development Center on Improving Teaching and Learning in Postsecondary Institutions (Postsecondary Center). The Postsecondary Center will examine instructional innovations for improving postsecondary student learning outcomes. In particular, the Postsecondary Center will both examine how open-/broad-access institutions of postsecondary education[2] are using technologies to personalize instruction in credit-bearing courses and build the capacity of administrators, instructors, developers, and researchers to create, implement, and evaluate the instructional interventions they have chosen.

Institutions and instructors are leveraging technology to personalize the postsecondary instructional experience. These innovations include reforms, such as developing fully online, hybrid, and blended courses and the infrastructure to improve them, as well as instructor-focused advances, such as integrating Web 2.0 tools into courses. Developers are also creating approaches and tools such as interactive tutoring systems and eTextbooks. These innovations aim to improve the instructional environment and student learning, often by tailoring the instruction or content or by creating adaptive and guided learning models.

However, it is unclear which of these innovations work for whom, under what conditions, and for which learning outcomes. Research on a variety of innovations, from online instruction to the use of web-based discussion boards, have mixed findings. Recently, as many universities and colleges rushed to online learning in response to COVID-19, faculty and administrators sought clear guidance on how to ensure that faculty could deliver effective instruction and students could continue to learn, but there were few resources to help them with the quick pivot. It is unclear how well different institutions, departments, or faculty were able to adjust and whether all students were able to benefit equitably. As postsecondary institutions continue to plan for an unpredictable future that may require online instruction and more technology-supported instruction, the work of the Postsecondary Center is likely to be even more relevant.

The Postsecondary Center will address these research gaps to improve postsecondary teaching and learning through (i) a focused program of research; (ii) national leadership, capacity-building, and outreach activities; and (iii) supplemental activities. The overarching goal of the Postsecondary Center should be to address the pressing needs of the postsecondary system to leverage technology in order to support students' learning goals.

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[2] These include both community and technical colleges and 4-year colleges and universities that accept 75 percent or more of their applicants.

The Postsecondary Center's focused program of research will conduct research to address questions about which innovations improve postsecondary learning outcomes, for whom, and under what conditions. The goal of this work is two-fold. First, this research will help the community of postsecondary researchers, developers, administrators, and instructors better understand the opportunities for and benefits and limitations of technology-supported instructional innovations. Second, this work will lead to improved theories of change, practical guidance, and training materials that various stakeholders can use to strengthen their own work. Every aspect of a successful R&D center's work–from its research through its dissemination–aims to help communities understand how research findings apply to their needs and then support communities in translating research for their goals.

Examples of question to address:
- What are the learning principles that support postsecondary student learning and could enhance instruction, and how can they be integrated into or leveraged by technological tools or reforms?
- What characteristics of students, faculty, courses, and institutions should researchers and technology developers keep in mind when creating tools or reforms?
- How should institutions or instructors determine which technological tools or reforms are appropriate for their goals and contexts? What information is useful for identifying the key features of innovations that best match their needs?
- What factors of the setting predict successful adoption or deployment of an innovation, and how can such successes be replicated or taken to scale?

As the Postsecondary Center conducts its research, it will also be developing the tools and guidance the field needs to improve the technology innovation pipeline. The Postsecondary Center will study not only relevant innovations but also how best to guide and support those developing, implementing, or evaluating such innovations.

As part of its activities, the Postsecondary Center will also **share data** from the innovation or innovations it studies. The field requires access to non-proprietary data in order to build shared knowledge and determine what gaps remain for further research, development, or evaluation.

The Postsecondary Center will also conduct **national leadership, capacity-building, and outreach** activities to address three obstacles the field faces when considering innovations that leverage technology:
- The lack of clear, objective information about the benefits, costs, and implications of such innovations (Information)
- The difficulty faced by administrators and faculty in choosing the most appropriate innovation(s) to meet their needs and evaluating whether their investments are working as intended (Adoption and Implementation)
- The lack of coordination among research, development, and the market to ensure developers have information, products with evidence of effectiveness go to market, and the market's needs are integrated into research and development (Research-to-Market Pipeline)

Throughout the entire project period, the Postsecondary Center will work to inform and support the broader community. The combined national leadership activities will build from and feed into the focused program of research and will help address the needs of a wide range of stakeholders.

To address the lack of Information, the Postsecondary Center will conduct activities that address the needs of technical and non-technical audiences, including policymakers, practitioners, developers and industry, and researchers. These may include working papers, journal publications, and briefs; the use of social media; and presentations at professional conferences. These activities should clarify the role of the Postsecondary Center's innovations in improving postsecondary teaching and learning.

To address Adoption and Implementation challenges, the Postsecondary Center will conduct activities that build postsecondary institutional capacity to select, deploy, and evaluate instructional innovations. These may include the development of toolkits and rubrics, workshops and trainings, and other activities designed for institutional staff, such as instructional developers, and institutional researchers.

To improve the Research-to-Market Pipeline, the Postsecondary Center will conduct activities that bring together research and development work and market insights to help improve the development and deployment of evidence-based innovations. These activities could include creating research toolkits, workshops on moving to market, or training and mentoring opportunities. At minimum, the Postsecondary Center **must host a yearly convening of IES-funded researchers and developers** to discuss research related to improving postsecondary teaching and learning, review emerging findings, and improve the dissemination and marketing of products. This convening will take place at the Annual IES PI Meeting.

Finally, the Postsecondary Center will also conduct **supplemental activities** (such as meetings or smaller scale studies). These activities will support the focused program of research activities and/or the national leadership and outreach activities. The Postsecondary Center will work cooperatively with IES to select and design these activities in response to policy and practice needs relevant to the center's topic. For this reason, IES does not expect a detailed plan for these supplemental activities in the application but does expect a budget set aside of 5 percent of the maximum grant award (up to $500,000) for them.

2. Requirements

(a) Sample, Outcomes, and Setting

(1) Sample
Your research **must** focus on postsecondary learners. Postsecondary students with or at risk for disabilities may be included in your proposed research activities and could be the primary focus.

(2) Outcomes
Your research **must** include measures of academic outcomes.

(3) Setting
Your research **must** be conducted in open/broad-access postsecondary education settings, which may include online institutions of higher education, or with data collected from such settings.

(b) R&D Center Narrative

The R&D Center narrative **must** adhere to the formatting guidelines (see Part IV.B) and be **no more than** 35 pages. If the narrative exceeds this page limit, IES will remove any pages after the 35th page of

the narrative. The narrative **must** include five sections: Significance, Research Plan, Leadership and Outreach Activities, Management and Institutional Resources, and Personnel.

(1) Significance of the Focused Program of Research and National Leadership, Capacity-Building, and Outreach Activities
The purpose of this section is to describe the innovation(s) the Postsecondary Center will focus on and how building capacity to develop, implement, and evaluate such innovations have the potential to transform the education outcomes of postsecondary learners at scale.

You **must describe**
- The conceptual framework that will guide the center's work, including national leadership, capacity-building, and outreach activities
- The innovation(s) that will be the focus of the research
- The research questions the center will address

(2) Research Plan for the Focused Program of Research
The purpose of this section is to describe your focused program of research.

You **must describe** the
- Characteristics of your sample
- Research design and methods for each study proposed
- Power analyses for each study
- The cost analysis plan for implementing the innovation, if the center proposes to develop an innovation
- The cost analysis plan and the cost-effectiveness plan for the innovation, if the center proposes to test the impact of an innovation
- Data analysis plans for each study

(3) National Leadership, Capacity-Building, and Outreach Activities
The purpose of this section is to describe the Postsecondary Center's leadership, capacity-building, and outreach activities.

You **must describe** how you will
- Disseminate what the center is learning to technical and nontechnical audiences
- Build capacity to leverage teaching and learning technologies
- Improve the pipelines connecting research, development, and the postsecondary market, including plans for a yearly convening with IES-funded researchers and developers

(4) Management and Institutional Resources
The purpose of this section is to demonstrate that you have the organizational structure, institutional capacity, and access to the resources needed to carry out and effectively manage the project.

You **must describe** the
- Organizational structure of the center
- Plans and procedures for the overall management of the center
- Resources to conduct the work of the center

(5) Personnel

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

You **must describe** your project team.

(c) Data Management Plan

All R&D Center applications must include a [Data Management Plan (DMP) placed in Appendix A](#). Your DMP describes your plans for making the final research data from the proposed project accessible to others. An IES program officer will be responsible for reviewing the completeness of the proposed DMP, and it is not considered in the review of scientific merit of your application. If your application is being considered for funding based on the scores received during the scientific peer review process but your DMP is determined incomplete, you will be required to provide additional detail regarding your DMP. See [Appendix A](#) for more details.

3. Award Limits

Awards made under the Postsecondary Center topic **must** conform to the following limits on duration and cost.

(a) Duration Maximum

The maximum duration of a Postsecondary Center is **5 years**.

(b) Cost Maximum

The maximum cost for a Postsecondary Center award is **$10,000,000** (total cost = direct costs + indirect costs).

No more than 60 percent of the total budget (direct costs + indirect costs) may be allocated to the focused program of research.

At least **5 percent** of the maximum award (up to $500,000) **must be reserved for supplementary studies** to be designed in collaboration with IES.

4. Recommendations for a Strong Application

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

(a) Significance

Describe how the instructional innovation(s) you plan to focus on could improve teaching and learning outcomes.

Identify a clear theme for the Postsecondary Center. The theme may be a particular instructional innovation, such as online learning or mobile technologies, or it may be on a particular learner outcome, such as improved writing, or progression through or completion of a program of study,

including academic or career and technical education oriented degree or certificate programs. Explain why this theme is significant to postsecondary success and what it could contribute to our knowledge of postsecondary teaching and learning.

Describe how the Postsecondary Center's research questions will contribute to building knowledge about and capacity for postsecondary instructional innovations.

Describe how the work of the Postsecondary Center could help improve the postsecondary research-to-market pipeline.

Discuss instructional, adoption, or other obstacles faced by various stakeholders–including postsecondary staff and faculty, researchers, and learners–and how research on the Postsecondary Center's theme along with national leadership, capacity-building, and outreach activities would address these obstacles.

Describe the types of stakeholders that need to be engaged in researching, implementing, and disseminating information. Identify places where their interests converge or diverge and discuss how this creates opportunities and challenges.

Discuss how the various research projects and national leadership activities will inform one another and how the different partners will collaborate and benefit from involvement.

(b) Research Plan for the Focused Program of Research

Consider the needs of end users including administrators, faculty, learners, researchers, developers, and other stakeholders. Identify what they need to know to make informed choices and discuss how your research and other activities address those needs.

Describe how the research of the Postsecondary Center could address both high-priority or immediate pressures that postsecondary institutions are facing (such as COVID-19, labor market pressures to retrain recently unemployed workers, etc.) and long-term, systemic issues.

Discuss whether the research will include studies, such as experimental or design studies, that test whether different modifications lead to different outcomes. If this work includes lab studies, discuss how the results from this work will translate into research in instructional settings.

Explain how your study (or studies) will contribute to the research gaps you have identified in your Significance section and how it fits the center's theme.

Describe the factors you will study and how they related or lead to specific learner outcomes. Identify contextual factors and learner characteristics that may affect the association.

Describe the quantitative and/or qualitative methods you will use. Make clear how each method will be used and for what purpose. For example, if you plan to use log file data, clearly describe the source of these data and why they are appropriate for the research questions. Or if you will be collecting observation data or survey data, you should make clear who will conduct the observations or provide responses to the surveys.

Describe the data collection instruments you will use and their reliability and validity.

As appropriate to your research questions, IES recommends that you refer to the Recommendations for project types in its Education Research Grants program (CFDA 84.305A) and its Research Grants Focused on Systematic Replication program (CFDA 84.305R) (https://ies.ed.gov/funding/21rfas.asp) to make sure your research plan is complete. These project types include Measurement, Exploration, Development and Innovation, Initial Efficacy and Follow-Up (CFDA 84.305A), and Replication (CFDA 84.305R).

For each study, present a research plan that includes the following:
- A clear statement of the problem or issue that your study will address
- The sample and setting and how they will be appropriate for meeting the research aims of the study
- A detailed research design
- A detailed data analysis plan
- A detailed plan to conduct a cost analysis (for projects that propose to develop an innovation)
- A detailed plan to determine the cost analysis and cost effectiveness of the innovation (for projects that propose to test the impact of an innovation)
- A detailed
- A timeline

Cost analysis plan for projects developing an innovation:
Describe how you will determine the cost of the fully developed innovation and its implementation (for an introduction see the IES Cost Analysis Starter Kit at https://ies.ed.gov/seer/cost_analysis.asp). You may already have an estimated cost for your innovation, or you may plan to make your innovation available to schools at no cost. Regardless, your application must include a plan for determining the cost. The plan should include a discussion of how you will do the following:
- Determine the resources used by the innovation–whether these resources are related to personnel, facilities, equipment, materials, training, or other things–and describe the resources' characteristics (quality) and quantity.
- Price each resource - determine their actual or estimated cost. If any entity, including the project, will provide a resource for free or at a reduced cost during the study, you should use the resource's real cost (what it would cost if there were no subsidy).
- Calculate the cost of the fully developed innovation (total the cost of the resources).
- Test your assumptions (sensitivity analysis).

If you already have an estimate of the cost of the innovation, you still must include a plan to calculate the actual costs when implemented during the study.

If you intend to offer the innovation free of charge, you must still include a cost analysis plan as part of the study.

Cost analysis and cost-effectiveness analysis plan projects testing the impact of an innovation:
A cost-effectiveness analysis provides information about the costs to achieve a particular impact when using a particular program, practice, or policy.
- A cost-effectiveness analysis is required only for the primary learner outcome(s). The analysis should be conducted at the level that is most relevant for the innovation being studied, whether the college, classroom, or individual learner level.

- If you are evaluating the impact of any specific component(s) of the innovation–in addition to the overall impact of the innovation–you should provide additional cost-effectiveness analyses for the separate components evaluated.
- If you are unable to conduct a cost-effectiveness analysis, explain why.

Describe how you will determine the cost of the innovation and its implementation (for an introduction see the *IES Cost Analysis Starter Kit* at https://ies.ed.gov/seer/cost_analysis.asp), the cost of the comparison condition, and the cost-effectiveness of the innovation (the comparison of costs and impacts between the innovation and the comparison condition). The plan should include a discussion how you will do the following:

- Determine the resources used by the innovation– whether these resources are related to personnel, facilities, equipment, materials, training, or other things–and describe the resources' characteristics (quality) and quantity.
- Price each resource - determine their actual or estimated cost. If any entity, including the project, will provide a resource for free or at a reduced cost during the study, you should use the resource's real cost (what it would cost if there were no subsidy).
- Calculate the cost of the innovation (total the cost of the resources).
- Compare alternative approaches to determining costs:
  - Total cost and incremental cost of the innovation
  - Calculating costs using national average prices and local prices
- Identify different breakdowns of cost:
  - Identify who is responsible for which costs.
  - Identify startup costs and maintenance costs.
  - Identify annual costs if the innovation is multi-year.
- Test your assumptions (sensitivity analysis).
- Following the same process, calculate the cost of the comparison condition.
- Determine the cost effectiveness of the innovation:
  - Describe how you will use the difference in cost and the difference in learner outcomes for the innovation versus the comparison condition to determine the cost per beneficial impact provided by the innovation (if there are any beneficial impacts from the innovation).
  - Focus on the key student outcomes.
- If your study proposes to evaluate any key components of the innovation, you should conduct a separate cost analysis and cost-effectiveness analysis for those components.

If you already have an estimate of the cost of the innovation, you still must include a plan to verify the estimated costs.

If you intend to offer the innovation free of charge, you must still include a cost analysis and cost-effectiveness analysis plan.

(c) National Leadership, Capacity-Building, and Outreach Activities

Provide a timeline that shows when major activities will take place and a description of how those activities will inform one another and how they build from or feed into the center's research activities.

Consider activities that bring together different stakeholders or that help different audiences understand the needs, insights, or motivations of groups they may not normally interact with. For example, the Postsecondary Center could help developers better understand the working conditions and motivations of postsecondary faculty.

Discuss ways that the Postsecondary Center could provide timely, actionable information to address high-priority or immediate pressures that postsecondary institutions are facing.

Identify the knowledge, skills, and abilities that professionals (including institutional researchers, administrators, education researchers, technology developers, curriculum designers, textbook writers) need to build and discuss the activities and products the Postsecondary Center will create to address their needs.

If you plan on providing trainings, include the following:
- The type(s) of training you are prepared to offer and why the training is needed
- The individuals or groups that will be targeted for the training, the numbers of each, and how they will be identified or recruited
- The content and format of the training
- The length of the training and whether it will be offered a single time or repeatedly
- How you will advertise the training
- The steps you will take to ensure that trainees come from diverse backgrounds
- How you will assess the outcomes of your training and use this to improve the training or materials if the training will happen multiple times

If you plan to offer financial support to trainees, specify the amount and the conditions for the support.

Discuss your plans for convenings with IES-funded researchers including the major goals for meeting with them, how you will facilitate the exchange of information and ideas, and how you might work with them and IES to determine training or dissemination needs and to form appropriate plans to meet these needs. You might consider including a proposed agenda for the first meeting in your narrative or Appendix D. These convenings will take place at the Annual IES PI Meeting.

Identify existing forums, such as annual professional conferences, where the Postsecondary Center can disseminate to technical and nontechnical audiences, including postsecondary educators, administrators, and other staff.

Describe the center website you will design, including its content and the audiences you intend to reach. IES also encourages applicants to use social media and electronic forms of communication (such as webinars, podcasts, and videos) to broaden the reach of the center at a relatively low cost.

Discuss any opportunities you will provide for graduate students or early career researchers to contribute to the Postsecondary Center activities and gain meaningful experience.

(d) Management and Institutional Resources

Describe your plans and procedures for the overall management of the Postsecondary Center and its diverse activities.

Identify the management structure and procedures that you will use to ensure that the Postsecondary Center is responsive to the concerns and needs of IES and IES-funded researchers while also meeting the expectations for the focused program of research.

Include an organization chart that shows how the major functions or activities of the Postsecondary Center will be organized and how key personnel will relate to one another.

Document the availability and cooperation of the settings required to carry out your research via letters of agreement in [Appendix E](#) of your application.

(e) Personnel

Identify and describe the following for all key personnel, including the principal investigator, co-principal investigators, and co-investigators:
- Qualifications to carry out the proposed work
- Roles and responsibilities within the project
- Percent of time and calendar months per year (academic plus summer) to be devoted to the project
- Experience that is relevant to national leadership activities, including communications, dissemination, and/or the research-to-market pipeline
- Experience and capacity to manage a project of this size and type

IES strongly encourages applicants to propose partnerships among an interdisciplinary team of researchers, developers and industry representatives, and postsecondary administrators and faculty to help guide the program of research and the national leadership, capacity-building, and outreach activities.

Include a plan for how key personnel will maintain their objectivity.

Discuss how your team reflects the diverse populations the center aims to serve or has experience working with groups such as education researchers, technology developers, postsecondary practitioners, and industry members.

Discuss who will manage the communications across the center and with the public. Strong applications will have a dedicated communications manager or communications team.

If key personnel have previously received an IES grant (or grants), briefly discuss the outcomes of the research, including products developed and/or tested and how the project's findings and products were disseminated, in order to demonstrate your ability to produce project outcomes consistent with IES's mission.

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 applications 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 6 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. The type size used must conform to all three requirements. Small type size makes it difficult for reviewers to read the application; consequently, the use of small type will be grounds for IES to return the application without peer review.

As a practical matter, if you use a 12-point Times New Roman font without compressing, kerning, condensing, or other alterations, the application will typically meet these requirements.

5. *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 R&D Center Narrative - Significance, Research Plan, Leadership and Outreach Activities, Management and Institutional Resources, and Personnel - that is described for the R&D Center (see Part II: R&D Center Descriptions and Requirements) is followed by several appendices. One appendix (Appendix A) is 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 one of the optional appendices. See the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for more information about preparing and submitting your application using the required application package for this competition through Grants.gov (https://www.grants.gov/).

1. *Appendix A: Data Management Plan (Required)*

Appendix A must meet the general formatting guidelines and be **no more than five pages**. If Appendix A exceeds this page limit, IES will remove any pages after the fifth page of the appendix before it is forwarded for peer review. This is the only material that should be included in Appendix A; all other material will be removed prior to scientific peer review of the application.

Applications that do not contain a Data Management Plan (DMP) will be deemed nonresponsive to the Request for Applications and will not be accepted for review. Resources that may be of interest to researchers in developing a data management plan can be found at https://ies.ed.gov/funding/researchaccess.asp.

DMPs are expected to differ depending on the nature of the studies conducted by the R&D Center and the data collected. By addressing the items identified below, your DMP describes how you will meet the requirements of the IES policy for data sharing.

When the PI and the AOR sign the cover page of the grant application, they will be assuring compliance with IES policy on data sharing as well as other policies and regulations governing research awards. Once the DMP is approved by IES, then the PI and the institution are required to carry it out, and to report progress and problems through the regular reporting channels. Compliance with IES data sharing requirements is expected even though the final dataset may not be completed and prepared for data sharing until after the grant has been completed. In cases where the PI/grantee is non-compliant with the requirements of the data sharing policy or DMP, subsequent awards to individuals or institutions may be affected. By addressing the items identified below, your DMP describes how you will meet the requirements of the IES policy for data sharing.

The DMP should include the following:
- Identification of the education repository where you will pre-register your study in the first year of the study, following the Standards for Excellence in Education Research (SEER; https://ies.ed.gov/seer/preregistration.asp)
- Type of data to be shared
- Procedures for managing and for maintaining the confidentiality of Personally Identifiable Information
- Roles and responsibilities of project or institutional staff in the management and retention of research data, including a discussion of any changes to the roles and responsibilities that will occur should the project director/principal investigator and/or co-project directors/co-principal investigators leave the project or their institution
- Expected schedule for data sharing, including how long the data will remain accessible (no later than publication of findings in a peer-reviewed publication and available for at least 10 years) and acknowledgement that the timeframe of data accessibility will be reviewed at the annual progress reviews and revised as necessary
- Format of the final dataset
- Dataset documentation to be provided, including any decisions made about the data that would be important in replicating the results
- Method of data sharing, such as through a data archive, and how those interested in using the data can locate and access them
- Whether or not users will need to sign a data use agreement and, if so, what conditions they must meet
- Any circumstances that prevent all or some of the data from being shared. This includes data that may fall under multiple statutes and, hence, must meet the confidentiality requirements for each applicable statute including data covered by Common Rule for Protection of Human Subjects, FERPA, and HIPAA

The costs of the DMP can be covered by the grant and should be included in the budget and explained in the budget narrative. IES program officers will be responsible for reviewing the completeness of the proposed DMP. If your application is being considered for funding based on the scores received during the peer review process but your DMP is determined incomplete, you will be required to provide additional detail regarding your DMP.

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.

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 scientific peer review.

In Appendix C, you may include figures, charts, or tables with supplementary information like a timeline for your research project, a diagram of the management structure of your project, or examples of measures used to collect data for your project.

These are the only materials that should be included in Appendix C; all other material will be removed prior to review of the application.

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

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

If you are proposing to explore, develop, evaluate, or validate an intervention or assessment, you may include examples of the essential practices and structural elements that constitute the core components of the intervention or assessment.

These are the only materials that should 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 schools, districts and, when appropriate, platform developers who will participate in or provide data for the proposed research or serve as consultants. Ensure that the letters reproduce well so that reviewers can easily read them. Do not reduce the size of the letters. See the IES Application Submission Guide (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. A common reason for projects to fail is loss of participating schools and districts. Letters of Agreement regarding the provision of data should make it clear that the author of the letter will provide the data described in the application for use in the proposed research and in time to meet the proposed schedule.

IES understands that, due to school closings associated with COVID-19, you may have difficulty providing letters from schools, districts, and other education sites that would participate in or provide data for the proposed research. 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.

These are the only materials that may be included in Appendix E; all other material will be removed prior to review of the application.

D. Other Narrative Content

In addition to the R&D Center Narrative (see [Part II: R&D Center Topic Requirements and Recommendations](#)) and required and optional Appendices (see above), you will also prepare a project summary/abstract and a bibliography and references cited 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/Structured Abstract

You **must** submit the project summary/structured abstract as a separate PDF attachment in the application package. If your project is recommended for funding, IES will use this abstract as the basis for the online abstracts that we post when new awards are announced. We recommend that the project summary/structured abstract be two-pages long and follow the format used for IES online abstracts (https://ies.ed.gov/funding/grantsearch/).

(1) Title

- **Title:** Distinct, descriptive title of the project.

(2) Center Summary

The purpose of the center summary is to provide a high-level overview that is accessible to a range of audiences, such as policymakers, practitioners, and the general public. This section should use short, active sentences to briefly describe the significance of the project, its activities, and the intended outcomes.

- **Purpose**: A brief description of the purpose of the center and its significance.
- **Research Activities**: An overview of the studies and research activities.
- **National Leadership, Capacity-Building, and Dissemination Activities**: An overview of the various leadership, capacity-building, and dissemination activities.
- **Outcomes**: A brief description of the expected products of the project.

(3) Structured Abstract

The purpose of the structured abstract is to provide key details about the project activities. This section is most likely to be used by other researchers but should be written in a way that is accessible to anyone who wants more information about the project.

- **Focused Program of Research** -For each major study, describe the following:
  - Setting
  - Population/Sample

- o Innovation/Factors: a brief description of the innovation team will develop or test, or a brief description of the factors that will be examined in relation to learner outcomes (for studies that propose exploratory work).
    - o Research Design and Methods: A brief description of the major features of the design and methodology.
    - o Control Condition (if applicable)
    - o Key Measures
    - o Data Analytic Strategy
    - o Cost Analysis (if applicable, include a brief description of the cost and/or cost-effectiveness analyses planned)
- **National Leadership, Capacity-building Focused Program of Research** -For each major activity, describe the goal, intended audience, and potential products and outcomes.

See our online search engine of funded research grants (https://ies.ed.gov/funding/grantsearch/) for examples of the content to be included in your project summary/abstract.

2. Bibliography and References Cited

You **must** submit the bibliography and references cited as a separate PDF attachment in the application package. There is **no recommend a page length** for the bibliography and references cited. You should include complete citations, including the names of all authors (in the same sequence in which they appear in the publication), titles of relevant elements such as the article/journal and chapter/book, page numbers, and year of publication for literature cited in the project narrative.

3. Human Subjects Narrative

You **must** submit an exempt or non-exempt human subjects narrative as a separate PDF attachment in the application package. We do not recommend a page length for the human subjects narrative. See *Information About the Protection of Human Subjects in Research Supported by the Department of Education* (https://www2.ed.gov/policy/fund/guid/humansub/overview.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 Institutional Review Board approval at the time you submit your application. However, if an application that involves non-exempt human subjects research is recommended for funding, the designated U.S. Department of Education official will request that you obtain and send the certification to the Department within 30 days of the formal request 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** and follow the general formatting guidelines. 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 (http://www.ncbi.nlm.nih.gov/sciencv/) where you will find an IES biosketch form. You may also develop your own biosketch format. 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.

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

The biographical sketch for the principal investigator, each co-principal investigator, and other key personnel should show how key personnel possess training and expertise commensurate with their specified duties on the proposed project, for example by describing relevant publications, grants, and research experience.

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.

Part IV: Competition Regulations and Review Criteria

A. Funding Mechanisms and Restrictions

1. Mechanism of Support

IES intends to award cooperative agreements pursuant to this Request for Applications. Through the terms of the cooperative agreement, grantees will work with IES to plan and implement their activities.

2. Funding Available

Although IES intends to support the R&D Center 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. IES will prioritize funding one R&D Center. However, should funding be available, IES may consider making additional awards to high-quality applications that remain unfunded after one award is made.

The size of the award depends on the R&D Center topic and scope of the project. Please attend to the duration and budget maximums in Part II.

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.

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 (http://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.

3. 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.

4. Applicable Regulations

Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance) codified at CFR Part 200. The Education Department General Administrative Regulations (EDGAR) in 34 CFR parts 77, 81, 82, 84, 86 (part 86 applies only to institutions of higher education), 97, 98, and 99. In addition 34 CFR part 75 is applicable, except for the provisions in 34 CFR 75.100, 75.101(b), 75.102, 75.103, 75.105, 75.109(a), 75.200, 75.201, 75.209, 75.210, 75.211, 75.217, 75.219, 75.220, 75.221, 75.222, and 75.230.

B. Additional Award Requirements

1. Pre-Award

(a) Clarification and Budget Questions

IES uses the scientific peer review process as the first step in making funding decisions. If your application is recommended for funding based on the outcome of the scientific 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 and Education Settings

The research you propose will most likely require that you have (or will obtain) access to education settings such as classrooms, colleges/universities, 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 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 datasets

If your application is being considered for funding based on scientific merit scores from the 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

(1) Access to data

You must include a Data Management Plan (DMP) in Appendix A. The scientific peer review process will not include the DMP in the scoring of the scientific merit of the application. Instead, IES program officers will be responsible for reviewing the completeness of the proposed DMP. The costs of the DMP can be covered by the grant and should be included in the budget and explained in the budget narrative.

(2) Access to results: Grantee submissions to ERIC
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) Pre-Register Studies

Grantees must register their studies on a suitable platform within the first year of receiving a new award. There are several options for preregistration including the Registry of Efficacy and Effectiveness Studies (REES; https://sreereg.icpsr.umich.edu/sreereg/), the Open Science Framework (OSF; https://osf.io/), ClinicalTrials.gov (https://clinicaltrials.gov/), AEA Registry (https://www.socialscienceregistry.org/), EGAP (http://egap.org/content/registration), Uri Simonsohn's AsPredicted (https://aspredicted.org/), and trial registries in the WHO Registry Network (https://www.who.int/ictrp/network/en/).

(c) 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.

(d) Attendance at the Annual IES Principal Investigators Meeting

The principal investigator (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. PIs who are not able to attend the meeting may designate another person who is key personnel on the research team to attend.

C. Overview of Application and Scientific Peer Review Process

1. Submitting Your Letter of Intent

Letters of Intent are submitted online at https://iesreview.ed.gov/LOI/LOISubmit. **Select the Letter of Intent form for the topic under which you plan to submit your application**. The online submission form contains fields for each of the 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 a letter of intent, a program officer will contact you regarding your proposed research. IES staff also use the information in the Letters of Intent 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. Your LOI should include the following information:

- Descriptive title
- R&D Center topic that you will address
- Brief description of the proposed R&D Center
- 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 R&D Center (attend to the Duration maximum)
- Estimated total budget request (attend to the Budget maximums)

2. Multiple Submissions

You may submit applications to more than one of the IES FY 2021 grant programs. However, you may submit a given application only once for the FY 2021 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 20, 2020 through the internet using the software provided on the Grants.gov (https://www.grants.gov/) website. 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/).

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 PRIMO system (https://iesreview.ed.gov/). PRIMO allows applicants to track the progress of their application via the Applicant Notification System (ANS).

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

(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 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. IES expects reviewers for all applications to assess the following aspects of an application in order to judge the likelihood that the proposed research will have a substantial impact on the pursuit of that purpose. Information pertinent to each of these criteria is described in Part II R&D Center Topic Requirements and Recommendations.

(a) Significance of the Focused Program of Research

Does the applicant address the recommendations described in the Significance section for the R&D Center?

(b) Research Plan for the Focused Program of Research

Does the applicant address the recommendations described in the Research Plan for the Focused Program of Research section for the R&D Center?

(c) Plans for Other R&D Center Activities

Does the applicant address the recommendations described in the National Leadership, Capacity-Building, and Outreach section? Does the description of the applicant's capacity to conduct supplemental and leadership activities demonstrate that the applicant has the ideas, experience, and capability to successfully carry-out such activities in cooperation with IES? Does the applicant propose meaningful leadership and outreach activities for the R&D Center?

(d) Management and Institutional Resources

Do the plans and procedures for the overall management of the R&D Center indicate that the applicant has the capacity to complete the proposed research, dissemination, and leadership activities efficiently and successfully? Does the applicant have the facilities, equipment, supplies, and other resources required to support the proposed activities? Do the commitments of each partner show support for the implementation and success of the proposed R&D Center activities? Does the applicant address the recommendations described in the Management and Institutional Resources section for the R&D Center topic under which the applicant is submitting the application?

e) Personnel

Does the description of the personnel make it apparent that the Principal Investigator/Center Director and other key personnel possess the appropriate training and experience and will commit sufficient time to competently implement the proposed research? Does the applicant address the recommendations described in the Personnel section for the R&D Center topic under which the applicant is submitting the application?

6. Award Decisions

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

- Scientific merit as determined by scientific peer review
- Performance and use of funds under a previous federal award
- Contribution to the overall program of research described in this Request for Applications
- Ability to carry out the proposed research within the maximum award and duration requirements
- 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. See the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/submissionguide.pdf) for an Application Checklist that describes the forms in the application package that must be completed and the PDF files that must be attached to the forms for a successful submission through Grants.gov.

Compliance
• Have you included an R&D Center Narrative?
• Do the project narrative and other narrative content adhere to all formatting requirements (Part IV.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: Data Management 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?
○ Does your proposed research include measures of academic outcomes?
○ Is this research relevant to education in the United States, and does it address factors under the control of U.S. education systems?
○ Does your application describe the R&D Center's focused program of research?
○ Does your application describe the R&D Center's other activities, including national leadership and outreach activities as well as supplemental activities?
• Does your R&D Center Narrative meet the sample, outcomes, and setting requirements described below?

Sample, Outcomes, and Setting Requirements
• Does the sample include postsecondary learners?
• Do the measured outcomes include at least one academic outcome describe in Part 1?
• Does research include open/broad access postsecondary education settings, which may include online institutions of higher education, or data collected from such settings?

Required R&D Center Narrative Elements		
	Significance	• conceptual framework that will guide the center's work, including the national leadership, capacity-building, and outreach activities • innovation(s) that will be the focus of the research • research questions you will address
	Research Plan	• characteristics of your sample • research design and methods for each study proposed • power analysis for each study • data analysis plans • cost analysis plan for implementing the innovation, if the center is developing an innovation • cost analysis and cost-effectiveness plan for the innovation, if the center is testing the impact of an innovation

	National Leadership, Capacity-Building, and Outreach Activities	A description of • how you will disseminate what the center is learning to technical and nontechnical audiences • build capacity to leverage teaching and learning technologies • improve the pipeline connecting research, development, and the postsecondary market, including plans for a yearly convening with IES-funded researchers and developers
	Management and Institutional Resources	• organizational structure of the center • plans and procedures for the overall management of the center • resources to conduct the work of the center
	Personnel	• project team