

Research Grants Focused on Systematic Replication

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U.S. DEPARTMENT OF EDUCATION

A Product of the National Center for Education Research

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IES Submission Guide Available:	April 1, 2020	https://ies.ed.gov/funding/pdf/submissionguide.pdf
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Part I: Overview and Requirements

A. Purpose of the Research Grants Focused on Systematic Replication

The Institute of Education Sciences (IES) provides scientific evidence to improve education practice and policy and shares that evidence in a way that can be used by educators, parents, policymakers, researchers, and the public. Within IES, the National Center for Education Research (NCER) supports 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

In this Request for Applications (RFA), IES invites applications for Research Grants Focused on Systematic Replication (CFDA 34.305R). Systematic replication studies¹ that vary one or more aspects of a previous study contribute to a better understanding of what interventions improve education outcomes and the conditions under which they will likely work and for whom.

In FY 2021, IES invites applications using one of two different approaches:

1. **Systematic Replications:** These projects will systematically replicate an intervention by varying at least one aspect of a prior impact study. For example, researchers could vary the geographical location; the population of learners, educators, and/or schools; and/or features of the intervention implementation and delivery.
2. **Systematic Replications Using Digital Platforms:** These projects will systematically replicate an intervention that is either currently available through a widely used digital platform or can readily be embedded within such a platform prior to the evaluation. These replications will involve varying at least one aspect of a prior impact study, such as the geographical location; the population of learners, educators, and/or schools; and/or the intervention implementation.

¹ Systematic replications are also referred to as conceptual replications (see the Companion Guidelines on Replication & Reproducibility in Education Research at <https://ies.ed.gov/pdf/CompanionGuidelinesReplicationReproducibility.pdf>).

Under both approaches, IES will support replication studies that evaluate an intervention when implemented under routine conditions (*Effectiveness Replications*) and evaluations that provide more support than is typically provided under routine conditions (*Efficacy Replications*).

These projects should allow for the following:

- Identification of the types of settings and learners that are most likely to benefit from the intervention (and conversely, where and with whom the intervention is less likely to produce benefits)
- Identification of the implementation or delivery models that result in the greatest benefits for learners
- Evidence regarding the impact of the intervention on relevant education outcomes relative to a comparison condition using a research design that meets the What Works Clearinghouse (WWC) design standards with or without reservations (<https://ies.ed.gov/ncee/wwc/Handbooks>)
- Information on how study findings - including information on implementation and cost - contribute to the larger body of evidence on the intervention
- Information needed for the implementation of the intervention
 - If a beneficial impact is found, the identification of the factors needed for successful implementation and replication of the core components of the intervention
 - If no beneficial impact is found, an examination of why the findings differed from those of prior evaluations of the intervention and an analysis of whether further research would be useful to revise the intervention and/or its implementation

To encourage rigorous education research that is transparent, actionable, and focused on consequential outcomes, all applications under this competition are expected to follow the principles outlined in the IES-wide Standards for Excellence in Education Research (SEER; <https://ies.ed.gov/seer>), as applicable. These principles include pre-registering studies; focusing on outcomes meaningful to student success; documenting intervention implementation to inform use in other settings; identifying core components; analyzing costs; facilitating generalization of study findings; making research findings, methods, and data available to others; and conducting research in a way that informs the future scaling of interventions.

B. General Requirements

Applications to the Systematic Replication program **must meet these requirements** in order to be sent forward for scientific peer review.

1. Education Settings

Proposed research **must** be relevant to education in the United States and **must** address factors under the control of U.S. education systems.

Education in the U.S. is delivered in a wide range of formal settings, such as center-based prekindergarten, public and private K-12 schools, community colleges, and 4-year colleges and universities. In addition, there are formal programs under the control of education agencies that take place out of school including after-school, distance learning, online, and adult literacy programs run through community-based organizations. IES does not support research that is relevant only in

informal contexts outside of education systems. Contact an IES program officer if you have questions about the setting you have identified for your proposed research.

2. Learner Outcomes

IES supports research on a diverse set of academic outcomes that reflect **learning and achievement** in academic content areas and learners' **successful progression** through education systems. IES is interested in the following learner outcomes:

- For **prekindergarten**, school readiness outcomes, including pre-reading, language, vocabulary, early-STEM (science, technology, engineering, and/or mathematics) knowledge, English language proficiency, digital literacy, and social and behavioral competencies (including self-regulation and executive function) that prepare young children for school.
- For **kindergarten through Grade 12**, learning, achievement, and higher order thinking in the academic content areas, including literacy, STEM, and social studies; English language proficiency; career and technical education (CTE) attainment; and progression through education systems as indicated by course and grade completion, retention, high school graduation, and dropout.
- For **postsecondary education**, learning, achievement, and higher order thinking in postsecondary courses and 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.
- For **adult education**,² achievement in literacy, English language proficiency, and numeracy, as well as access to, persistence in, progress through, and completion of adult education courses and programs including the full range of course and program types described in Title II of the Work Innovation and Opportunity Act of 2015.

3. Interventions

Interventions can include those that were developed and/or tested with IES funding as well as those that have not been funded by IES. Applicants **must** describe how the intervention to be replicated meets the following criteria:

- A paper describing the results of a causal-impact study of the intervention has been published after undergoing peer review.
- The causal-impact study described in the paper has met or would meet WWC design standards (using version 3.0 or later) with or without reservations (<https://ies.ed.gov/ncee/wwc/Handbooks>).

² For the purposes of this RFA, *adult education* refers to the system and authorized providers that serve learners at least 16-years old who are not enrolled in the standard K-12 system but are or could be preparing for, transitioning into, or currently enrolled in adult literacy programs, as defined in Title II, the "Adult Education and Family Literacy Act", of the 2015 Workforce Innovation and Opportunities Act (WIOA), such as Adult Basic Education, Adult Secondary Education, Integrated Education Training, Family Literacy, Integrated English Language and Civics.

- The results of the causal-impact study showed practically important impacts on meaningful education outcomes that would be of interest to education stakeholders, including parents, state and local education agencies, and policymakers.

4. Dissemination History and Plan

All applicants **must** describe their history with disseminating results from past research and present a plan to disseminate project findings in [Appendix A: Dissemination History and Plan](#) of the application.

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; <http://ies.ed.gov/funding/researchaccess.asp>).

Therefore, 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.

5. Award Limits

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

Replication Project Type	Maximum Duration	Maximum Cost
Efficacy	5 years	\$4,000,000
Effectiveness	5 years	\$4,500,000

C. Getting Started

1. Technical Assistance for Applicants

IES provides technical assistance 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 through a variety of formats up until the time of Grants.gov submission. The program officer for this competition is -

Dr. Christina Chhin

Email: Christina.Chhin@ed.gov

Telephone: (202) 245-7736

IES asks potential applicants to submit a letter of intent at <https://iesreview.ed.gov/LOI/LOISubmit> prior to the application submission deadline to facilitate communication with program officers and to plan for the scientific peer review process. Letters of intent are optional but strongly encouraged. If you submit a letter of intent, a program officer will contact you regarding your proposed research. IES also uses 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. 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.

2. Eligible Applicants

Institutions that have the ability and capacity to conduct rigorous 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 a grant application. [Part II](#) provides detail on the requirements for the project narrative. [Part III](#) provides information on formatting, the appendices, and other narrative content. [Part IV](#) provides general information on competition regulations and the review process. [Part V provides a checklist to ensure you have included all required application elements to advance to scientific peer review.](#) [Part VI](#) provides the program codes that you must enter 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>) - for important information about on-time submission procedures and IES-specific guidance and recommendations to help you ensure your application is complete and received on time without errors through Grants.gov.

We strongly recommend that both the PI and the authorized organization representative (AOR) read both 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 *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.

(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 peer review.
- Includes all **required appendices** (see [Part III](#))
 - [Appendix A: Dissemination History and Plan](#) (All applications)
 - [Appendix B: Response to Reviewers](#) (Resubmissions only)
 - [Appendix F: Data Management Plan](#) (All applications)

(c) Responsiveness

- Meets the general requirements for all applications (see [Part I](#))
 - Education Outcomes
 - Education Settings
 - Interventions
- Meets the project 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 Research Grants Focused on Systematic Replication competition (CFDA 84.305R) in FY 2021 are listed below and described fully in relevant sections of the RFA.

- 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 has also re-instituted formatting guidelines, as discussed in [Part III](#) that applicants must attend to.
- In FY 2021, IES is competing (1) Systematic Replications and (2) Systematic Replications Using Digital Platforms. Applicants must identify which approach they are taking.
- Applicants may propose to replicate any evidence-based intervention that meets the criteria described above, whether or not it has been developed or tested with IES funding.

- Applicants **must** describe a plan for the independent evaluation of the intervention. This plan should show that key personnel responsible for the design of the evaluation, assignment to treatment and comparison groups, supervision of outcome data collection and coding, and data analysis did not and do not participate in the development or distribution of the intervention or (if applicable) the digital platform and do not have a financial interest in the intervention or platform.
- A dissemination history is now required in addition to the dissemination plan in [Appendix A: Dissemination History and Plan](#). The peer reviewers will now consider Dissemination as a separate review criterion. Reviewers will consider team members' experience disseminating research findings and products from past projects to a range of audiences in addition to applicants' plans for disseminating the findings of the proposed study.
- 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.
- IES now requests a two-page abstract instead of a one-page abstract. See [Part III](#) for details about what to include in your abstract.
- The maximum award amount has been increased to \$4,000,000 for Efficacy Replications and \$4,500,000 for Effectiveness Replications.

Part II: Project Requirements and Recommendations

A. Requirements

In addition to the **General Requirements** above, applications **must meet the requirements set out under (1) Project Narrative and (2) Data Management Plan** in order to be responsive and sent forward for scientific peer review. The requirements are the minimum necessary for an application to be sent forward for scientific peer review. In order to improve the quality of your application, IES offers recommendations following the requirements.

1. Project Narrative

The project narrative must adhere to the formatting guidelines (see [Part III](#)) and be no more than 25 pages. If the narrative exceeds this page limit, IES will remove any pages after the 25th 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 explain why the proposed study is needed.

You **must describe**

- The intervention to be evaluated
- The evidence from prior impact studies of the intervention
- The components of the prior study (or studies) that will be systematically varied
- Whether the proposed study is an Efficacy or Effectiveness Replication
- Whether you are applying for Systematic Replications or Systematic Replications Using Digital Platforms
- For Systematic Replications Using Digital Platforms, the widely used digital platform

(b) Research Plan

The purpose of this section is to describe the evaluation of the intervention.

You **must describe** the

- Sample
- Setting
- Research design
- Power analysis
- Data analysis procedures
- Plan for an implementation study
- Cost analysis plan
- Cost-effectiveness analysis plan

(c) Personnel

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

You **must describe** the

- Project team
- Plan for an independent evaluation

(d) Resources

The purpose of this section is to demonstrate how you have the institutional capacity and access to resources needed to execute the project and disseminate findings.

You **must describe** the resources to conduct the project.

2. Data Management Plan

All Systematic Replication applications **must** include a [Data Management Plan \(DMP\) placed in Appendix F](#). Your DMP describes your plans for making the final research data from the proposed project accessible to others. IES program officers 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 the Recommendations for Strong Applications section below for additional detail regarding your DMP.

B. Award Limits

Awards **must** conform to the following limits on duration and cost.

1. Duration Maximums

The maximum duration of an Efficacy or Effectiveness Replication is 5 years.

2. Cost Maximums

The maximum award for an Efficacy Replication is \$4,000,000 (total cost = direct costs + indirect costs).

The maximum award for an Effectiveness Replication is \$4,500,000 (total cost = direct costs + indirect costs).

C. Recommendations for Strong Applications

These recommendations are intended to improve the quality of your application, and the peer reviewers are asked to consider these recommendations in their evaluation of your application. IES strongly encourages you to incorporate the recommendations into your project narrative and relevant appendices. Where appropriate, recommendations are aligned with the SEER Principles

(<https://ies.ed.gov/seer>) to ensure that research is transparent, actionable, and focused on meaningful outcomes that have the potential to dramatically improve education.

1. Project Narrative

(a) Significance

Describe the intervention, including the following:

- Its components
- The processes and materials that will be used to support implementation (for example, training and coaching, websites, and supporting manuals)
- Evidence that it is ready for implementation with the proposed population, in the proposed setting, and under the proposed conditions

For Systematic Replications Using Digital Platforms, describe the digital platform.

- Provide evidence of its widespread use (across the country or within a state, large district, or multiple districts), and describe any prior studies that have used the digital platform to implement this or another intervention.
- Justify the intervention's readiness for implementation and evaluation through the proposed digital platform.
- For interventions that are not currently available through a digital platform, discuss the benefits of embedding the intervention within a widely used platform and justify their readiness to be put on the platform and begin evaluating their impact on learner education outcomes within the first year of the project.

Identify whether the proposed study is an Efficacy Replication or an Effectiveness Replication. The primary difference is that Efficacy Replications are implemented under ideal conditions while Effectiveness Replications must be implemented under routine conditions.

For Efficacy Replications, describe the ideal conditions under which the intervention will be implemented. Ideal conditions provide a more controlled setting under which the intervention may be more likely to have beneficial impacts. For example, ideal conditions could include more implementation support than would be provided under routine practice in order to ensure adequate fidelity of implementation.

For Effectiveness Replications, describe and justify the implementation under routine conditions.

NOTE: Routine conditions reflect the everyday practice occurring in classrooms, schools, and districts including the expected level of implementation that would take place if there was no research study.

- Provide evidence of the intervention's readiness for implementation under routine conditions.
- Justify that the findings from prior studies are strong enough to withstand potential changes to the level of fidelity of implementation.
- Discuss the implementation of the intervention in the proposed project, making the following clear:
 - Implementation will be the same as for any school or district intending to use the intervention.
 - The level of implementation support will be no greater than what a district or school would receive if not taking part in the study.

- The heterogeneity of the sample will align with that of the target population.

Describe the theory of change for the intervention and the theoretical and empirical evidence that supports it.

- The theory of change should make clear why the intervention is likely to produce better education outcomes relative to current practice.
- Specify the core components of the intervention as well as conditions that must be in place for the desired change in education outcomes to occur.
- Include a visual representation of your theory of change in the project narrative or in [Appendix C: Supplemental Charts, Tables, and Figures](#).

Describe the prior causal impact studies of the intervention.

- Indicate whether prior studies have been reviewed by the WWC and met design standards (using version 3.0 or later) with or without reservations (<https://ies.ed.gov/ncee/wwc/Handbooks>) and include a link to the WWC study review. If the prior study has not been reviewed by the WWC, describe how the study would meet standards.
 - For group-design studies, include information on the type of design, assignment to conditions, overall and differential attrition, baseline equivalence, outcome measures, and confounding factors.
 - For single-case design studies, include information on the type of design, interassessor agreement, the number of phases and data points per phase, outcome measures, and confounding factors.
- Discuss the findings from prior impact studies, including the practically important impacts on meaningful education outcomes and any unanswered questions that would benefit from systematic replication.

Describe the context in which the intervention will be evaluated in the current study, specifically noting which aspects of the prior study (or studies) will be systematically varied and which will remain the same.

- Describe the target population(s) and whether/how it differs from prior studies of the intervention. For example, you may propose to implement and evaluate the intervention with a different population of learners, such as those from different racial/ethnic groups, learners with disabilities or different types of disability, or learners who demonstrate different levels of achievement.
- Describe where implementation will take place and whether/how the geographic location and/or types of settings (for example, rural vs. urban schools) differ from prior studies of the intervention.
- Identify who will implement the intervention and how this compares to prior impact studies. For example, you may propose to test the intervention when it is implemented by general education teachers as opposed to special education teachers.
- Describe how the intervention will be implemented and discuss any variations to the implementation. For example, you might propose implementing the intervention with the whole class as opposed to in a small group setting.
- Describe whether the intervention will be implemented under ideal (or non-routine conditions) that may include more implementation support or under routine conditions that reflect everyday practice. These conditions may differ from the prior study (or studies), for example

shifting from active support by an intervention developer to implementation under routine conditions.

Describe and justify any changes that are needed to make the intervention appropriate for implementation under the proposed conditions and/or with the proposed population. **NOTE:** Studies that involve substantial revisions to an intervention that was evaluated previously may be more appropriate for a Development and Innovation or Initial Efficacy project under the [Education Research Grants Program \(84.305A\)](#).

Justify the practical and theoretical importance of the proposed variation(s) between the prior study and the proposed study, including how it expands our understanding of the conditions under which the intervention is likely to work and for whom.

Discuss how the results of this systematic replication will help identify the market for this intervention and increase its potential for scalability. For example, the results may provide a better specification of the types of settings or learners that are most likely to benefit from this intervention or the identification of the resources and organizational structure necessary for the wider adoption and implementation of the intervention.

(b) Research Plan

Provide a timeline for each step in your evaluation, including embedding the intervention within a widely used digital platform (if applicable), sample selection and assignment, baseline data collection, intervention implementation, ongoing data collections, the study of fidelity of implementation and comparison group practice, analyses, and dissemination. Timeline tables or figures may be placed in either the project narrative or [Appendix C: Supplemental Charts, Tables, and Figures](#) but should only be discussed in the project narrative.

(1) Sample and Setting

Describe the setting in which the study will take place, including the size and characteristics of the schools and/or the surrounding community and how this will help better identify the learners or settings for which the intervention is most likely to work. Also describe how similar or different the proposed setting is from the prior impact study (or studies) of the intervention.

Detail the procedure that will be used to recruit a specific sample of learners, schools, or districts that represents a target population in need of the proposed intervention.

- Describe the target population of learners, schools, or districts you intend to study and how similar or different it is from the prior impact study (or studies) of the intervention. **NOTE:** IES does not expect individual projects to be generalizable to the U.S. population as a whole. Instead, your target population may represent a very narrow segment of the larger U.S. population.
- Identify factors that might lead to the effect of the intervention varying across the learners, schools, or districts in your target population and the variables available to measure these factors.
- Identify the inclusion/exclusion criteria you will use during sample recruitment and how similar or different these criteria are from the prior impact study (or studies) of the

intervention. Discuss how these may narrow the target population studied and influence the generalizability of the results to the target population.

- Describe the sample recruitment procedure that will be used to ensure similarity between the sample and target population. Discuss how you will measure similarity and possible adjustments for any resulting mismatch between the sample and population.

Discuss how the settings included in the research (as reflected in the provided letters of agreement in [Appendix E](#)) are representative of your target population

Describe strategies to increase the likelihood that participants (for example, schools, educators, and/or learners) will join the study and remain in the study over the course of the evaluation.

(2) Research Design

Describe the research design for evaluating the intervention.

- Discuss how similar or different the proposed research design is from the prior impact study (or studies) of the intervention.
- Discuss how your study, if well implemented, will meet current WWC design standards with or without reservations.³
- Describe and justify the counterfactual. Compare the counterfactual in the proposed study to that in the previous study (or studies).
- Describe strategies or existing conditions that will reduce potential contamination between treatment and comparison groups.
- IES encourages you to measure education outcomes beyond the intervention end point to determine if short-term changes in education outcomes are sustained over time. Depending on your design, you may be able to include additional follow-up data collection within your current study. If that is not possible, you may be able to include activities that may help you do additional follow-up outside of the current study. Such activities may include planning your sample size for additional data collection in the future and ensuring your IRB protocols are written to allow researchers to follow participants beyond your current grant time period.

For Systematic Replications Using Digital Platforms, describe the process for embedding the intervention within a widely used digital platform (if it is not currently in such a platform) and preparing it for evaluation of impact on learner education outcomes by the end of the first year of the project.

(3) Power Analysis⁴

Provide a separate power analysis for each causal analysis you propose in order to demonstrate the statistical power of the research design to detect a reasonably expected and minimally important effect of the intervention on the focal learner outcomes.

- Justify why this level of effect would be expected and explain why this would be a practically important effect.

³ Applications will be reviewed against the WWC design standards in effect at the time of RFA publication. See <https://ies.ed.gov/ncee/wwc/Handbooks>.

⁴ A power analysis is not necessary for applicants proposing single-case experimental designs.

- Consider how the clustering of participants such as learners in classrooms or schools will affect statistical power.
- Detail the procedure used to calculate either the power for detecting the minimum effect or the minimum detectable effect size. Include the following:
 - The statistical formula you used
 - The parameters with known values, such as number of clusters or number of participants within clusters
 - The parameters whose values are estimated and how those estimates were made, such as those for intraclass correlations or covariates
 - Other aspects of the design and how they may affect power, such as the use of repeated observations or stratified sampling or blocking
 - Predicted attrition and how it was addressed in the power analysis

Provide a similar discussion regarding power for any causal analyses to be done using subgroups of the proposed sample and any tests of mediation or moderation, even if those analyses are considered exploratory/secondary.

(4) Outcome Measures

To the extent possible, outcome measures should align with those used in the prior impact study or studies. Variations in outcome measures from the prior studies should be identified and discussed in relation to replicability.

- Describe all outcome measures and the constructs they assess.
- If you propose to include additional or different outcome measures than prior studies, justify their inclusion, discuss how they are linked to the intervention, and describe their reliability and validity. **NOTE:** IES encourages the use of widely used common measures of learner outcomes to facilitate the field's ability to synthesize findings across studies.

(5) Fidelity of the Intervention and Comparison-Group Practice

Fidelity studies examine the extent to which the intervention was implemented at a level needed to produce beneficial learner outcomes. Studies of comparison-group practice help confirm that there is a difference between what the treatment and comparison group receive and in turn help explain differences in outcomes. Beneficial results can be more confidently attributed to the intervention if comparison and intervention group practices differ. If an intervention is not found to have a positive impact on learner outcomes, it could be because fidelity is not high in the intervention group or the intervention and comparison group practices do not differ.

- Identify the measures of intervention fidelity and comparison group practice.
- Describe how fidelity measures capture the core components of the intervention. If the intervention includes training of the intervention's end users, also identify the measures of fidelity for the training/trainers.
- Show that fidelity measures of the intervention and comparison-group practice are sufficiently comprehensive and sensitive to identify critical differences between what the intervention and comparison groups receive.
- Discuss the process for collecting measures of intervention fidelity and comparison group practice. For Systematic Replications Using Digital Platforms, this may involve the collection and processing of systems data generated by the platform.

- Describe your plan for determining the fidelity of the intervention in the treatment group and the identification of practice in the comparison group.
- Include a plan for how you would respond if you found either low fidelity or similar comparison group practice early in the study period.

(6) Implementation Study

The implementation study is an extension of the fidelity study (described above), with the additional focus on better understanding what factors are associated with higher (or lower) fidelity of implementation and likelihood of sustainability. These factors could include characteristics of the intervention implementers, adaptations made in response to local context, as well as classroom, school, and district organizational factors. The results of the implementation study should provide information needed for future successful implementation, replication, and/or scaling of the intervention.

- Describe your implementation study, including the questions it will address and the design and measures you will use to answer those questions.

(7) Moderators and Mediators

Describe any mediators or moderators that will be included in your analysis, your rationale for focusing on these variables and the measures you will use to assess them (including their reliability and validity).

(8) Data Analysis

To the extent possible, data from the proposed study should be compared and analyzed with respect to prior impact studies of the intervention.

- Make clear how the data analyses answer your research questions.
- Detail your data analysis procedures for all quantitative and qualitative analyses, including your impact study, fidelity of implementation study, implementation study, subgroup analyses, and analysis of baseline equivalence.
- Describe the plan for comparing the results of the proposed study to those from prior impact studies in order to determine whether the proposed study replicated the findings from prior studies.
- Describe mediator or moderator analyses.
- Address clustering of learners in classes and schools.
- Discuss how exclusion from testing and missing data will be handled in your analysis.
- If you intend to link multiple datasets, provide sufficient detail for reviewers to judge the feasibility of the linking plan.
- Explain how you will measure and report effect sizes in ways that policymakers and educators can readily understand.
- Describe how you will measure the generalizability of your findings by contrasting your sample's characteristics with the characteristics of the target population. Describe your plans for adjusting for any mismatch between your sample and the population.

(9) Cost Analysis and Cost-Effectiveness Analysis

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 intervention being studied, whether the school, classroom, or individual learner level.
- If you are evaluating the impact of any specific component(s) of the intervention—in addition to the overall impact of the intervention—you should provide additional cost-effectiveness analyses for the separate components evaluated.

Describe how you will determine the cost of the intervention 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 intervention (the comparison of costs and impacts between the intervention and the comparison condition). The plan should include a discussion of how you will do the following:

- Determine the resources used by the intervention— 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 intervention (total the cost of the resources).
- Compare alternative approaches to determining costs:
 - Total cost and incremental cost of the intervention
 - 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 intervention 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 intervention:
 - Describe how you will use the difference in cost and the difference in learner outcomes for the intervention versus the comparison condition to determine the cost per beneficial impact provided by the intervention (if there are any beneficial impacts from the intervention).
 - Focus on the key student outcomes.
- If your study proposes to evaluate any key components of the intervention, 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 intervention, you still must include a plan to verify the estimated costs.

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

(c) Personnel

Identify and describe the expertise and qualifications of the project team at the primary applicant institution and at any subaward institutions.

In its research grant programs, IES is interested in including individuals from groups that have typically been underrepresented in the education sciences. Describe the backgrounds and experiences of project team members in light of this.

Describe how the background and experience of the project team supports the successful conduct of the proposed work.

Describe how you will conduct an independent evaluation.

- Show that the key personnel who are responsible for the design of the evaluation, assignment to treatment and comparison groups, supervision of outcome data collection and coding, and data analysis did not and do not participate in the development or distribution of the intervention or (if applicable) the digital platform and do not have a financial interest in the intervention or platform.
- The developer or distributor of the intervention may be a part of the project team if they are providing routine implementation support, such as professional development that is no greater than what a district or school would routinely receive if they were not taking part in the study. If the developer or distributor is included in this way, discuss how their involvement will not jeopardize the objectivity of the evaluation of the impact of the intervention.

For Systematic Replications Using Digital Platforms, identify the personnel responsible for managing the digital platform, including embedding the intervention within the platform (if appropriate), coordinating and managing data, and working with schools and districts on new and existing contracts.

Identify the key personnel responsible for the cost analysis and cost-effectiveness analysis, and describe their qualifications to carry out these analyses.

Describe additional personnel at the primary applicant institution and any subaward institutions along with any consultants.

Identify the management structure and procedures that will be used to keep the project on track and ensure the quality of its work, including

- Roles and responsibilities of personnel on the project
- Proportion of time personnel will devote to the project, expressed as percent effort over a 12-month calendar year

(d) Resources

(1) Resources to Conduct the Project

Describe your institution's capacity and experience 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 expenditures, and are necessary for the successful completion of the project, such as equipment, test materials, curriculum, or training materials.

Describe your access to the settings in which the research will take place. Include letters of agreement in [Appendix E](#) documenting the participation and cooperation of the schools. Convincing letters will convey that the organizations understand what their participation in the study will involve, such as random assignment, surveys, assessments, and classroom observations. Include information about incentives for participation, if applicable.

For Systematic Replications Using Digital Platforms, describe your access to the digital platform and data collected through the platform. Include letters of agreement in [Appendix E](#) documenting access to the proposed digital platform for research purposes, including the relevant systems data generated by the platform.

Describe your access to any datasets that you will require. Include letters of agreement, data licenses, or existing Memoranda of Understanding in [Appendix E](#) to document that you will be able to access the data for your proposed use.

Describe specific team members, offices, or organizations that will support dataset documentation and execution of the data management plan.

(2) Resources to Disseminate the Results

Describe your resources, including access to specific offices and organizations, to carry out your plans to disseminate results from your evaluation, as described in the required [Appendix A: Dissemination History and Plan](#).

2. Data Management Plan⁵

When the PI and the AOR sign the cover page of the grant application, they assure compliance with IES policy on data sharing as well as other policies and regulations governing research awards. Once the data management plan (DMP) is approved by IES, 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, following the Standards for Excellence in Education Research (SEER) (<https://ies.ed.gov/seer/preregistration.asp>)

⁵ Resources that may be of interest to researchers in developing a data management plan can be found at https://ies.ed.gov/funding/datasharing_policy.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 principal investigator and/or co-principal investigators leave the project or their institution
- Expected schedule for data access, including how long the data will remain accessible (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 access, 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 made accessible. 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 scientific peer review process but your DMP is determined incomplete, you will be required to provide additional detail regarding your DMP.

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 size 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. 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 project narrative - Significance, Research Plan, Personnel, and Resources -described under [Part II](#) is followed by several appendices. Some of these appendices are required, and some are optional. When you submit your application through Grants.gov, you will create a single PDF file that *contains the project narrative and all appendices* and include it as an attachment in the application package. Include appendices in alphabetical order and simply skip an appendix if it is not required for your application or if you choose not to include one of the optional appendices. See the IES Application Submission Guide (<https://ies.ed.gov/funding/pdf/submissionguide.pdf>) for more information about preparing and submitting your application using the required application package for this competition through Grants.gov (<https://www.grants.gov/>).

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 3rd page of the appendix before it is forwarded for peer review.

(a) Dissemination History

The dissemination history is intended to demonstrate that the research you have conducted in the past has been disseminated in a way that is consistent with the IES mission to promote scientifically valid research findings that can provide the basis for improving academic instruction and lifelong learning. Applicants who have never had an IES grant should focus on dissemination history of related, past projects. Reviewers will use this information to determine whether the project personnel have the experience 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 interventions or assessments 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 presentations of research findings, particularly those that were intended for practitioners, policymakers, parents, students, and/or the general public

(b) Dissemination Plan

Describe your plan to disseminate the findings from the proposed project. Dissemination plans should be tailored to the audiences that will benefit from the findings and reflect the unique purposes of your project.

Identify the audiences that you expect will most likely benefit from your research, such as federal and/or state policymakers and program administrators, state and local school system administrators, school administrators, teachers and other school staff, parents, students, and other education researchers.

Discuss the different ways in which you intend to reach these audiences through the publications, presentations, and products you expect to produce.

IES-funded researchers are expected to publish and present in venues designed for policymakers and practitioners in a manner and style useful and usable to this audience. For example -

- Report findings to the education agencies and schools that provided the project with data and data-collection opportunities.
- Give presentations and workshops at meetings of professional associations of teachers and leaders.
- Publish in practitioner journals.
- Engage in activities with relevant IES-funded Research and Development (R&D) Centers (<https://ies.ed.gov/ncer/research/randdCenters.asp>), Research Networks (<https://ies.ed.gov/ncser/research/researchNetworks.asp>), or Regional Educational Laboratories (RELs; <https://ies.ed.gov/ncee/edlabs/>).

IES-funded researchers who create products for use in research and practice as a result of their project (such as curricula, professional development programs, measures and assessments, guides, and toolkits) are expected to make these products available for research purposes or (after evaluation or validation) for general use. IES encourages researchers to consider how these products could be brought to market to increase their dissemination and use.

IES-funded researchers are expected to publish their findings in scientific, peer-reviewed journals and present them at conferences attended by other researchers.

Your dissemination plan should reflect the purpose of a Systematic Replication project. Such projects are intended to evaluate the impact of an intervention on education outcomes. IES considers all types of findings from these projects to be potentially useful to researchers, policymakers, and practitioners and expects that these findings will be disseminated in order to contribute to the full body of evidence on the intervention and will form the basis for recommendations. The costs of interventions need to be

measured, and communicating the costs and cost-effectiveness of interventions should be part of dissemination work.

- Findings of a beneficial impact on learner outcomes could support the wider use of the intervention and the further adaptation of the intervention for different conditions.
- Findings of no impact on learner outcomes (with or without impacts on more intermediate outcomes such as a change in teacher instruction) are important for decisions regarding the ongoing use and wider dissemination of the intervention, further revision of the intervention and its implementation, and revision of the theory of change underlying the intervention.

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 of a previous replication application (for example, an application that was submitted last year under the Research Grants Focused on Systematic Replication program (84.305R) or Research Grants Focused on Systematic Replication in Special Education (84.324R), or in previous years, as a Replication: Efficacy and Effectiveness project under the Education (84.305A) or Special Education (84.324A) Research Grants programs), you **must** include Appendix B.

Appendix B **must** meet the general formatting guidelines and be **no more than three pages**. If Appendix B exceeds this three-page limit, IES will remove any pages after the third page of the appendix before it is forwarded for 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 or justification to be considered a new application is the only information that may be included in Appendix B; all other materials 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 like a timeline for your research project, a diagram of the management structure of your project, or examples of measures used to collect data for your project, such as individual test items, tests, surveys, and observation and interview protocols.

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

4. Appendix D: Examples of Intervention Materials (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 peer review.

In Appendix D, you may include examples of curriculum materials, computer screen shots, or other materials used in the intervention to be evaluated.

These are the only materials that may be included in Appendix D; all other materials 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 (1) schools, districts, and other education settings who will participate in or provide data for the proposed research; (2) digital platforms that will be used for implementation and data collection; and (3) 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. 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. For Systematic Replications Using Digital Platforms, letters of agreement from schools and districts should discuss support from the school or district's technology coordinator for implementing the intervention.

IES understands that, due to school closings associated with COVID-19, you may have difficulty providing letters from schools, districts, and other education settings 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 materials will be removed prior to review of the application.

6. Appendix F: Data Management Plan

Applications **must** include Appendix F. Appendix F **must** meet the general formatting guidelines and be **no more than five pages**. If Appendix F exceeds this limit, IES will remove any pages after the 5th page of the appendix before it is forwarded for peer review.

Include your data management plan (DMP) in Appendix F. The content of the DMP is discussed under Data Management Plan in [Part II](#).

This is the only material that may be included in Appendix F; all other materials will be removed prior to review of the application.

D. Other Narrative Content

In addition to the project narrative (see [Part II](#)) 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 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/>).

(a) Title

- **Title:** Distinct, descriptive title of the project.
- **Replication Project Type and Approach:** Identify whether the study is an Efficacy or Effectiveness Replication and whether you are applying for Systematic Replications or Systematic Replications Using Digital Platforms.

(b) Project Summary

The purpose of the project 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, project activities, and the intended outcomes.

- **Purpose:** A brief description of the purpose of the project and its significance for improving education in the United States. This should include why the research is important, what this project will do to address the need, and the general expected outcomes of the project.
- **Project Activities:** An overview of the sample, research design, and methods.
- **Products:** A brief description of the expected products of the project, including the information that will be learned and disseminated.

(c) 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.

- **Setting:** A brief description of the location (identified at the state level) where the research will take place and other important characteristics of the locale, such as whether it is rural or urban.
- **Population/Sample:** A brief description of the sample including number of participants; the composition of the sample including age or grade level, race/ethnicity, or disability status as appropriate; and the population the sample is intended to represent.
- **Intervention:** A brief description of the intervention the research team will evaluate.
- **Research Design and Methods:** A brief description of the major features of the design and methodology. For example, specify whether you will use a randomized controlled trial or a quasi-experimental design. Describe the design and methods that are planned for each year, step, or phase of the project.
- **Control Condition:** A brief description of the control or comparison condition, including the participants and what they will experience.
- **Key Measures:** A brief description of key measures, including what constructs the measures assess and whether those constructs are study outcomes.
- **Data Analytic Strategy:** A brief description of the data analytic strategies that the research team will use to answer research questions.
- **Cost Analysis:** A brief description of the cost analysis and cost-effectiveness plan.
- **Related IES Projects:** Indicate whether the proposed research is related to a completed or ongoing IES-funded project by noting the title of the related IES project and providing a link to the online IES abstract.

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 recommended 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. There is **no recommended 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. Describe 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 grants pursuant to this Request for Applications.

2. Funding Available

Although IES intends to support the research 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.

The size of the award depends on replication project type (Efficacy or Effectiveness) and scope of the project. Please attend to the duration and budget maximums set for each type of replication 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_1432year&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, 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 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 to do will require that you have (or will obtain) access to education settings, such as classrooms, schools, and/or districts and (as needed) digital platforms and secondary datasets. 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, digital platforms, or settings you propose to study when you submit your application. Even in circumstances where you have included such letters with your application, **IES will require additional supporting evidence prior to the release of funds**. If you cannot provide such documentation, IES may not award the grant or may withhold funds.

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

- *Conducting research in or with education settings* - If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to education settings, you will need to provide documentation that you have access to the necessary settings in order to receive the grant. This means that if you do not have permission to conduct the proposed project in the necessary number of settings at the time of application, you will need to provide documentation to IES indicating that you have

successfully recruited the necessary number of settings for the proposed research before the full first-year costs will be awarded. If you recruited sufficient numbers of settings prior to the application, IES will ask you to provide documentation that the settings originally recruited for the application are still willing to partner in the research. Please note that for Systematic Replications Using Digital Platforms, these letters should discuss support from the school or district's technology coordinator for implementing the intervention.

- *Conducting research using a digital platform* - If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on the use of a digital platform for intervention implementation and data collection, you will need to provide documentation that you have permission to use the digital platform to conduct your study as proposed, and use and share data in a way that complies with the IES policy for data sharing. If you do not have permission at the time of application, you will need to provide this documentation before the full first-year costs will be awarded. If you obtained permission prior to the application, IES will ask you to provide updated documentation indicating that you still have permission.
- *Using secondary datasets* - If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to secondary datasets (such as state or district administrative data), you will need to provide documentation that you have access to the necessary datasets in order to receive the grant. If you do not have permission 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 prior to submitting your application, IES will ask you to provide updated documentation indicating that you still have permission.

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 F. 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-Registration

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/>), The American Economic Association's registry for randomized controlled trials (AEA RCT Registry; <https://www.socialscienceregistry.org/>), Evidence in Governance and Politics (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 program under which you plan to submit your application.** The online submission form contains fields for each of the six 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 letter of intent 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 also uses 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.

Elements for the letter of intent:

- Descriptive title
- Brief description of the proposed project, including the replication project type, approach, the intervention to be replicated, and the research design
- 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 replication project type)
- Estimated total budget request (attend to the Budget maximums for each replication project type)

2. Resubmissions and Multiple Submissions

If you intend to revise and resubmit an application that was submitted to a previous IES competition (for example, under the Research Grants Focused on Systematic Replication in Special Education (84.324R) or Research Grants Focused on Systematic Replication (84.305R) programs or the Education (84.305A) or Special Education (84.324A) Research Grants programs) but that was not funded, you **must** indicate on the SF 424 Application for Federal Assistance Form in the application package (see the *IES Application Submission Guide*; <https://ies.ed.gov/funding/pdf/submissionguide.pdf>) that the FY 2021 application is a resubmission (Item 8) and include the application number of the previous application (an 11-character alphanumeric identifier beginning "R305" or "R324" 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 2021 Request for Applications.

If you submitted a somewhat similar application in the past and did not receive an award but are submitting the current application as a new application, you should indicate on the application form (Item 8) that your FY 2021 application is a new application. In Appendix B, you should provide a rationale explaining why your FY 2021 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 2021 grant programs. You may also submit multiple applications within a particular grant program. 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 or multiple times within the same program. 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 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 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 an IES review panel (for information about panels from previous years, go to https://ies.ed.gov/director/sro/peer_review/reviewers.asp).

Applications are assigned to a 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 scientific peer review panel convenes to complete the review of applications.

The full panel will consider and score only those applications deemed to be the most competitive and to have the highest merit, as reflected by the preliminary rank order. Panel members may nominate for consideration by the full panel any application that they believe 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](#).

(a) Significance

Does the applicant address the recommendations described in the Significance section?

(b) Research Plan

Does the applicant address the recommendations described in the Research Plan section?

(c) Personnel

Does the applicant address the recommendations described in the Personnel section? Do the principal investigator and other key personnel possess appropriate training and experience and will they commit sufficient time to competently implement the proposed research?

(d) Resources

Does the applicant address the recommendations described in the Resources section? 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 application address pertinent recommendations described in Appendix A: Dissemination History and Plan? Does the applicant present a dissemination plan that is tailored to the purpose of the

replication and designed to reach a wide range of audiences? 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 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 sent forward 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 a project narrative?
	Do the project narrative and other narrative content adhere to all formatting requirements?
	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?
	Have you included Appendix F: Data Management Plan?
Responsiveness	
	Have you met all the General Requirements for an application?
	<ul style="list-style-type: none"> Does your proposed research project include measures of education outcomes?
	<ul style="list-style-type: none"> Is this research relevant to education in the United States, and does it address factors under the control of U.S. education systems?
	<ul style="list-style-type: none"> Do you describe how the intervention to be replicated meets the criteria described in this RFA?
	Does your project narrative include the four required sections? Did you describe the elements required for each section as listed below?
Required Project Narrative Elements	
Significance	A description of <ul style="list-style-type: none"> The intervention to be evaluated Evidence from prior impact studies of the intervention Components of the prior study (or studies) that will be systematically varied Whether the proposed study is an Effectiveness or Efficacy Replication Whether you are applying for Systematic Replications or Systematic Replications Using Digital Platforms For Systematic Replications Using Digital Platforms, the widely used digital platform

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Research Plan	A description of the <ul style="list-style-type: none">• Sample• Setting• Research design• Power analysis• Data analysis procedures• Plan for an implementation study• Cost analysis plan• Cost-effectiveness analysis plan
Personnel	A description of the <ul style="list-style-type: none">• Project team• Plan for the independent evaluation
Resources	<ul style="list-style-type: none">• A description of the resources to conduct the project

Part VI: Program Codes

Applications to the Systematic Replication Grants program (CFDA 84.305R) must identify a single approach and a single replication project type. You must enter the appropriate approach and replication project type code in Item 4b of the SF 424 Application for Federal Assistance form (see the *IES Application Submission Guide* for more information about this form; <https://ies.ed.gov/funding/pdf/submissionguide.pdf>).

For example, an application to conduct an Efficacy Replication using a digital platform should enter the following code in the field for Item 4b: NCER-DigRep-Efficacy.

Approach	Codes
Systematic Replication	NCER-SysRep
Systematic Replication Using a Digital Platform	NCER-DigRep

Replication Project Type	Codes
Efficacy Replication	Efficacy
Effectiveness Replication	Effectiveness