IES | Institute of Education Sciences

Transformative Research in the Education Sciences Grants Program

Assistance Listing Number (ALN): 84.305T

U.S. DEPARTMENT OF EDUCATION

A Product of the National Center for Education Research

Letter of Intent Due:	July 6, 2023	https://iesreview.ed.gov/LOI/LOISubmit
Application Package Available:	June 8, 2023	https://www.grants.gov/
Application Deadline:	11:59:59 p.m. Eastern Time on August 17, 2023	https://www.grants.gov/
Possible Start Dates:	March 1, 2024 - July 1, 2024	

See the companion IES Application Submission Guide (https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf) for guidance on preparing and submitting applications through Grants.gov.

Table of Contents

Part I: Overview and Requirements

A. Purpose of the Transformative Research in the Education Sciences Grants Program

Through its National Center for Education Research (NCER), the Institute of Education Sciences (IES) supports a program of research to build knowledge and understanding of education practice and policy. IES was established by the Education Sciences Reform Act of 2002 (ESRA – P.L. 107-279), in part to improve academic achievement and attainment and access to educational opportunities for all learners (ESRA, § 111.b.1.B), with a special focus on low-performing learners (ESRA, § 115.a.1) and those lacking access to high-quality educational opportunities (ESRA, § 115.a.2.A and 115.a.2.B). In carrying out this mission, we are committed to ensuring that our work is objective, secular, neutral, and nonideological; free of partisan political influence; and free of racial, cultural, gender, or regional bias (ESRA, § 111.b.2.B).

In this Request for Applications (RFA), NCER invites applications for research projects that will contribute to its Transformative Research in the Education Sciences Grants program (ALN 84.305T). Through this program, IES seeks to support innovative research that has the potential to make dramatic advances towards solving seemingly intractable problems and challenges in the education field and/or to accelerate the pace of conducting education research to facilitate major breakthroughs. Transformative research projects are characterized by bold and innovative thinking, interdisciplinary and cross-sector collaboration, and the potential to lead to high-reward solutions. Both high-quality research approaches and careful considerations of product development are needed to create high-reward, scalable solutions. There is risk that the innovative research proposed will not be able to be implemented as planned. IES expects teams to continually reassess their approaches and progress toward meeting project goals and be prepared to alter their plans to meet their project aims.

In fiscal year (FY) 2024, the Transformative Research in the Education Sciences Grants program will focus on accelerating learning and reducing persistent education inequities by leveraging evidence-based principles from the learning sciences coupled with advanced technology to create high-reward, scalable technology solutions.

The COVID-19 pandemic exacerbated existing opportunity and achievement gaps and reinforced the need to improve the learning experiences for learners who have been historically underserved by the education system. Decades of learning sciences research – the interdisciplinary study of how people learn and how characteristics of the learning environment affect the learning process – have resulted in robust principles for learning that can serve as the basis for creating novel learning experiences. Technology is rapidly advancing, creating new opportunities to explore how it can support learning. Technology also provides a means to integrate evidence-based principles into the learning process at scale.

Through this program, researchers, product developers, and educators will work together to develop a transformative solution to a persistent challenge in education. The partners will leverage insights from the learning sciences and advances in technology, conduct research to inform the development of a solution, and prepare the solution for scaling by considering issues such as product-market fit, the needs of users, and how variability in local context affects how the solution is implemented. These projects will be challenging due to the complexities of these partnerships combined with the barriers to adapting advanced technology for use in education. However, by bringing these partners together from the very beginning, there is the potential to create high-reward, scalable technology solutions to persistent challenges in education.

To encourage rigorous education research, all applications to the FY 2024 Transformative Research in the Education Sciences Grants program are expected to incorporate the principles outlined in the IES Standards for Excellence in Education Research (SEER; https://ies.ed.gov/seer/), as applicable. These principles include:

- Pre-registering studies.
- Making research findings, methods, and data open.
- Addressing inequities in learners' opportunities, access to resources, and outcomes.
- Identifying interventions' components.
- Documenting treatment implementation and contrast.
- Analyzing interventions' costs.
- Using high-quality outcome measures.
- Facilitating generalization of study findings.
- Supporting scaling of promising interventions.

Research funded through this program should yield outcomes and products that are meaningful to learners and the educators and schools that serve them and inform stakeholders about the cost and practical benefits and effects of programs, practices, and policies on relevant outcomes for learners.

NCER expects researchers receiving funding through this program to disseminate evidence in a way that is useful to and accessible by educators, parents, policymakers, researchers, and the public (ESRA, § 112.2). To support accessibility to all stakeholders, IES grantees must comply with the IES Policy Regarding Public Access to Research (https://ies.ed.gov/funding/researchaccess.asp) and adhere to other open science practices where applicable.

B. Program Structure and Award Limits

Applications to the Transformative Research in the Education Sciences Grants program **must** conform to the maximum indicated for award duration and cost. Applicants can request no more than $1,250,000 per year for up to three years, for a total cost of up to $3,750,000. For this program, IES is requiring cost sharing, which must be established by the beginning of Year 2 of the project. Continuation funding in Years 2 and 3 will be contingent upon the establishment of a cost sharing agreement. Additional details about cost sharing are provided in Part II.A.5.

Applicants will propose a set of deliverables and metrics (specified in the Project Narrative) that will enable IES to judge whether the project is on track for achieving its objectives. If the project successfully achieves its objectives, the research team will be eligible to apply for another round of funding for an additional 2-year period, pending availability of funds. Application requirements for the second phase of work will be announced in a separate request for applications.

C. Getting Started

1. Technical Assistance for Applicants

IES offers technical assistance to applicants to address the appropriateness of project ideas for this competition. Program officers work with potential applicants through a variety of formats, including email, phone, video conferencing, pre-recorded and live- webinars, and virtual office hours, up until the time of Grants.gov submission. IES webinars (live and on demand; https://ies.ed.gov/funding/webinars/index.asp) are also available to assist with application development. All applicants are strongly encouraged to submit a letter of intent (LOI) on the IES Review webpage (https://iesreview.ed.gov/) by July 6, 2023, to which an IES program officer will respond with feedback regarding the fit of your proposed project for this RFA.

The program officer for this competition is:
Dr. Erin Higgins
Email: Erin.Higgins@ed.gov
Telephone: (202) 987-1531

2. Eligible Applicants

Eligible applicants include, but are not limited to, institutions of higher education and non-profit, for-profit, public, or private organizations and agencies. **Research, product development, and education agency partners must be included in the application**. Partnerships may be represented through a subaward or cost sharing arrangement and/or through inclusion of key personnel from organizations with those capabilities. An organization may serve in multiple partnership roles (e.g., as both the research and product development partner) if it is capable of supporting the project in multiple capacities.

The research partner may be any organization that has the ability and capacity to conduct rigorous research and development. The product development partner must be an organization that has experience developing and scaling technology products. Eligible education agency partners include state or local agencies (including U.S. Territory and tribal agencies) that oversee prekindergarten, elementary, and/or secondary education, adult education, community colleges, and 4-year colleges and universities. Any of these partners could be the prime applicant as long as the organization has the grant management expertise to fulfill the administrative, financial, and reporting requirements of this grant.

Broadening Participation in the Education Sciences[1]: IES is committed to broadening institutional participation in its research grant programs. IES encourages applications from minority-serving institutions (MSIs) 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. IES is also encouraging applications from small, woman-owned, and minority-owned businesses that meet the eligibility criteria for this RFA.

3. Project Team

Projects of this scope and magnitude require a team science approach, with a wide variety of individuals with different expertise contributing to the project. IES strives to ensure that IES-funded teams will draw upon the entire pool of talented individuals, bringing people from different backgrounds, perspectives, interests, and experiences together to address complex education problems. Our ability to support high-quality research and development that represents a diversity of learner and educator experiences requires the inclusion of talented individuals who reflect this diversity (https://ies.ed.gov/aboutus/diversity.asp) and who have experience working with people from the communities for whom they are developing transformative solutions.

The Principal Investigator (PI) has the authority and responsibility for the proper conduct of the research and development, including the appropriate use of federal funds and the submission of required scientific progress reports, and is the primary point of contact with IES. The PI is designated by the institution submitting the application. Other personnel having authority and responsibility for the research and development as well as use of grant funds should be designated as co-PIs. Even if two or more people will share the authority and responsibility for leading and directing the proposed work intellectually and logistically as co-PIs, only one of them may be identified as the PI for the purposes of making a grant award.

4. RFA Organization and the IES Application Submission Guide

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

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[1] Section 114 of the Education Science Reform Act of 2002 charges IES with undertaking "initiatives and programs to increase the participation of researchers and institutions that have been historically underutilized in Federal education research activities of the Institute, including historically Black colleges or universities or other institutions of higher education with large numbers of minority students."

1. *This RFA* – to learn how to prepare an application that is compliant and responsive to the requirements. Part I provides an overview of this grants program. Part II provides details on the application requirements and provides recommendations for preparing a strong application. Part III provides information about the review process and review criteria for this competition. Part IV provides information about general formatting and the other narrative content for the application, including required appendices. Part V provides general information on competition regulations and the review process. Part VI provides a checklist that you can use to ensure you have included all required application elements to advance to scientific peer review. Part VII provides the project code 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/FY2024_submission_guide.pdf) – for important information about submission procedures and IES-specific guidance and recommendations to help you ensure your application is complete and received without errors on time through Grants.gov.

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

5. 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/FY2024_submission_guide.pdf).

- Received and validated by Grants.gov no later than 11:59:59 p.m. Eastern Time on August 17, 2023.

(b) Compliance

- Includes the required project narrative (see Part II).

- Adheres to all formatting requirements (see Part IV).

- Adheres to all page limit maximums for the project narrative and appendices. IES will remove any pages above the maximum before forwarding an application for scientific peer review.

- Includes all required appendices (see Part IV.C).
  - Appendix A: Dissemination History and Plan
  - Appendix B: Response to Reviewers (resubmissions only)

(c) Responsiveness

- Meets all competition requirements (see Part II).

6. Changes to the FY 2024 Transformative Research in the Education Sciences Grants Program 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 Transformative Research in the Education Sciences Grants Program (ALN 84.305T) competition in FY 2024 are listed below and described fully in relevant sections of the RFA.

- **Required focus on the learning sciences and education technology**. Applicants must propose research on and development of a new or significant adaptation of an existing education technology grounded in the learning sciences.

- **Product development, research, <u>and</u> education agency partnerships requirement.** Product development, research, and education agency partnerships are required. An organization may serve in multiple partnership roles (e.g., as both the research and product development partner) if it is capable of supporting the project in multiple capacities. See Part I.C.2 for details.

- **Dissemination History and Plan.** Expectations for what should be included in this appendix have been updated. See Part IV.C.1 for more information.

- **Cost sharing requirement.** For the FY 2024 competition, IES is requiring cost sharing, which must be established by the beginning of Year 2 of the project. Details about cost sharing are provided in Part II.A.5.

- **Specific requirements by section of the project narrative.** Applicants must now adhere to both general requirements and newly added specific requirements listed out by project narrative section (see Part II). Read through all requirements carefully to ensure that you prepare a responsive and compliant grant application.

Part II: Competition Requirements and Recommendations

A. General Requirements

Applications **must meet these general requirements** to be sent forward for scientific peer review.

1. Education Outcomes

Your proposed research **must** address and measure education outcomes of learners at any grade or education level between prekindergarten through postsecondary and adult education that are meaningful for education stakeholders and relevant to IES' mission. Applicants should justify and describe why their selected outcome or outcomes are meaningful for education leaders, policymakers, educators, parents, and/or learners.

2. Project Narrative

The project narrative **must** adhere to the formatting guidelines (see Part IV.B) and be no more than 18 pages. If the narrative exceeds this page limit, IES will remove any pages after the 18th page of the narrative. The project narrative **must** include five sections: Significance of the Transformative Solution, Research Approach, Deliverables and Metrics Plan, Personnel, and Resources.

3. Dissemination History and Plan (Appendix A)

Information about what should be included in the Dissemination History and Plan can be found in Part IV.C.1.

4. Award Limits

The table below provides the maximum award amount and duration for the Transformative Research in the Education Sciences Grants program. Applicants to this program may not exceed the following limits on award duration and cost per year and **should request the actual duration and amount of funding necessary to conduct your proposed scope of work,** rather than the maximums allowable by IES.

Maximum Grant Duration	Maximum Grant Award Per Year	Maximum Total Grant Award
3 years	$1,250,000	$3,750,000

5. Cost Sharing

IES is requiring cost sharing for this program. Continuation funding in Years 2 and 3 will be contingent upon the establishment of a cost sharing agreement and the inclusion of a revised budget and budget narrative that includes cost sharing funds in the first-year annual report. The cost sharing partner must be an organization that has experience developing and scaling technology products. This partner may be the same organization as the one identified in the application as the product development partner or an additional organization with experience developing and scaling technology products. If the prime awardee for the project is an organization that has experience developing and scaling technology products, the cost sharing could come from the prime awardee. Applicants do not need to have the cost sharing commitment in place by the submission date, though they have the option to do so. Instead, by the beginning of Year 2, each grant recipient must secure matching funds in an amount equal to at least 10 percent of the total federal funds provided under the grant in the form of cash or in-kind contributions. For example, if the grant recipient requests $3,750,000 from IES, an additional $375,000 must be generated in matching funds to support the grant. If the amount of requested federal funds is $1,500,000, an additional $150,000 must be generated in matching funds. Matching funds may be used for any allowable grant expenses. Unrecovered indirect costs

may not be used to meet match requirements. See 2 CFR 200.306 (https://www.ecfr.gov/current/title-2/subtitle-A/chapter-II/part-200/subpart-D/section-200.306) for more information about cost sharing.

B. Project Narrative Requirements

1. Overview

For the FY 2024 competition, NCER invites applications that propose research on and development of new or adaptation of existing education technologies grounded in the learning sciences intended to result in large and meaningful improvements in learners' education outcomes and address education inequities. To be responsive and forwarded for peer review, the project narrative must meet the section-specific requirements listed below.

2. Significance of the Transformative Solution

The purpose of this section is to provide an overview of the innovative technology solution that will be the focus of the project, the learning sciences research that supports it, and the population of learners for whom it is intended.

You **must describe**:
- The technology solution that will be researched and developed in this project, the learners it is intended to support, and the education outcomes it is proposed to improve.
  - The technology may be for use at the learner, teacher, K-12 school, institution of higher education (IHE), adult education program, and/or systems level. The proposed technology may be already developed as long as there are significant revisions or adaptations proposed.
- Prior research from the learning sciences – the interdisciplinary study of how people learn and the characteristics of the learning environment that impact the learning process - relevant for the proposed research and development work.

3. Research Approach

The purpose of this section is to describe your plans for conducting research on and developing the technology solution during the project.

You **must describe** the:
- Approach to research on and development of the technology solution.
- Approach to assessing product-market fit.
- Approach to conducting a cost analysis.

4. Deliverables and Metrics Plan

The purpose of this section is to describe the deliverables and metrics that will be used as evidence that the project is meeting its objectives and has the potential to result in large and meaningful improvements in underserved learners' education outcomes relevant to IES' mission.

You **must describe** the:
- Project deliverables.
- Metrics that will provide evidence that the project is achieving its intended research and development objectives.

5. Personnel

The purpose of this section is to demonstrate that your team possesses the appropriate experience for the proposed work, including expertise in development and scaling of technology and in the learning sciences, and will commit enough time to the project.

You **must describe** the:

- Project team.
- Partnership between a research partner, product development partner, and an education agency. See Part I.C.2 for more information.
  - An organization may serve in multiple partnership roles (e.g., as both the research and product development partner) if it is capable of supporting the project in multiple capacities.

6. Resources

The purpose of this section is to demonstrate how you have the organizational capacity and access to resources needed to execute a project of this size and complexity.

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

C. Recommendations for Strong Applications

This section provides recommendations for the five sections of the project narrative. More information about what should be included in the required and optional appendices is provided in Part IV.C.

1. Significance of the Transformative Solution

Provide a project overview and describe the aims of the project. The text should be clear and accessible even to those who are not in the immediate field of the proposed research.

Describe the technology solution that will be researched and developed. New technology development or significant adaptations of existing technology may be proposed. Clearly connect the proposed technology solution to the learning sciences from which the solution is derived.

Describe the components of the proposed transformative solution and articulate how the proposed research and development work has the potential to dramatically transform the education experience for learners and address persistent inequities. Transformative research projects are characterized by bold and innovative thinking, interdisciplinary and cross-sector collaboration, and the potential to lead to high-reward solutions.

Applicants are encouraged to consider the ways that artificial intelligence, including large language models, can be leveraged to support teachers and transform the education experience of learners. Research is needed to identify the use cases that provide teachers with the support they need to improve instruction; develop new interventions that leverage the affordances of these new technological advances; and evaluate promising approaches to determine their impacts on learners' education outcomes.

Identify and discuss the risks involved in your approach. Explain why it is worth pursuing the approach despite these risks. Describe how you will continually assess your approach and measure progress toward meeting project goals and how you could alter your plans to meet your project aims if necessary.

Offer a clear description of how the core components of the technology are hypothesized to affect learner outcomes.

Describe the learner outcomes your project will focus on and justify the importance of those outcomes.

Identify the population of learners and educators for which the technology is intended. Describe why the technology meets a critical need for that population and note how it is different and better than existing approaches. Clear evidence of its importance to education stakeholders may be provided in a letter, which can be included in Appendix D. u

Draw upon learning science research specific to the population of learners that is the focus of the project. If the proposed technology is to be used by a wide range of learners, be clear about any adaptations or support that will be considered for different subgroups of learners.

2. Research Approach

The description of your research approach should be clear and compelling to both experts and non-experts. While the application need not provide detailed plans and data, reviewers should have a clear sense of what is being proposed and why it is important, should be convinced that the applicants have thought about how the project is aligned with the overall IES mission and SEER principles (https://ies.ed.gov/seer/index.asp), and should be satisfied that the research will be conducted in a rigorous manner.

Describe the research and development approach you will take, including likely research questions, the approach to developing or adapting the technology, the approach to testing different features or design decisions, and the data analysis approach, as applicable. Applicants are welcome to propose a range of designs, may ask exploratory questions, and may include the use of mixed methods research, defined as the integration of qualitative and quantitative data, as part of the work.

Articulate how the design of the transformative technology solution, research questions, characteristics of your sample, and measures reflect the heterogeneity of the population for which the technology is being designed. If it is being designed for a particular subset(s) of the population, applicants should explain how the design of the technology solution, research questions, and measures reflect the strengths and needs of that population and are designed in culturally informed and culturally sensitive ways.

Provide the underlying logic or rationale for pursuing this project in the manner proposed. Given the high level of innovation expected, conventionally detailed research plans and extensive preliminary or pilot data are not required in this application.

Describe any innovations in your proposed research approach and why they should be considered innovative compared to current approaches, paradigms, practices, or perspectives.

Describe your approach to assessing product-user fit and making adaptations as needed to ensure the technology meets the needs of the intended end users. Consider the ways in which the technology could be adapted to address variability in the local contexts in which it will be implemented and the metrics and analyses that could be used to determine whether those adaptations improve the usability, feasibility, and potential impact of the product.

There is risk that the innovative work proposed is not able to be implemented as planned. IES expects teams to continually reassess their approaches and be prepared to potentially alter their plans to meet their project aims. Describe plans for continually reassessing your approach, possible alternative paths that may be followed at critical junctures in the project timeline, and general strategies that your team will use to maximize the likelihood of success.

Describe strategies to protect the objectivity of the research proposed. Describe how the research to be conducted will continue to remain independent of industry influence, even after a cost sharing arrangement has been established.

Provide a clear timeline for the project. Timeline tables or figures should be placed in either the project narrative or Appendix C: Supplemental Charts, Tables, and Figures, but discussion of the timeline should be included only in the project narrative.

Describe your plan to determine the quantity and value of all resources needed to use the technology solution. For more information on planning and implementing a cost study, resources are available at the IES Standards for Excellence in Education website (https://ies.ed.gov/seer/cost_analysis.asp).

3. Deliverables and Metrics Plan

Describe the deliverables and metrics that will provide evidence that the project is meeting its objectives at various stages, including those that you intend to achieve in the first and second years of the project. A comprehensive plan includes metrics that speak to both the potential for the solution to make a major,

positive impact on learners' education outcomes as well as its potential for scaling and adoption in the education marketplace.

Describe how you will evaluate the technology solution's potential to result in large and meaningful improvements in learners' education outcomes and to address persistent education inequities.

Examples of metrics include research findings about the promise for the technology to improve learners' education outcomes; information about whether the technology works as intended and/or is usable and feasible by end users; and evidence as to whether there would be interest and enthusiasm amongst educators.

Identify when in the timeline you intend to produce the deliverables and gather the metrics.

Provide a brief, high-level overview of what you would propose if you received 2 additional years of funding for the project. For example, having completed the development of the proposed technology, you may anticipate being ready to collect causal impact evidence, possibly by leveraging a digital learning platform.

4. Personnel

In its research grant programs, IES is committed to broadening participation, including personnel from underrepresented communities and diverse institutions. Describe how the background and experience of the project team supports the conduct of the proposed study with the population of learners that your project addresses.

Identify and describe expertise and qualifications of the project team at the primary applicant organization and at any subaward organizations to carry out the proposed work. Describe the structure of the research, product development, and education agency partnership.

Strong teams will include a product manager, software developers, instructional designers, content experts, educators, data scientists, and learning scientists. Applicants should also consider including individuals from key stakeholder groups on advisory boards or design teams (e.g., parents, teachers, principals, instructors at IHEs and in adult education programs, and pediatricians) to ensure that their perspectives are central to the design of the technology. Roles for each team member should be clearly articulated, and methods to facilitate interdisciplinary collaboration should be discussed.

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

5. Resources

Describe your institution's capacity to manage a grant of this size and 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, curricula, or training materials.

Describe your access to the settings in which the research will take place. Include Letters of Agreement in Appendix D documenting their participation and cooperation. Convincing letters convey that the organizations understand what their participation in the study will involve, such as testing out a version of the technology solution, administering annual surveys and/or assessments, and carrying out classroom observations.

Describe your access to any necessary datasets. Include Letters of Agreement, data licenses, or existing memoranda of understanding in Appendix D to document that you will be able to access those data for your proposed use.

Describe your resources, including access to specific communications offices and/or organizations, to carry out your plans to disseminate results as described in the required Appendix A: Dissemination History and Plan.

Part III: Application Review Criteria

A. Scientific Peer Review Process

IES will forward all applications that are compliant and responsive to this RFA 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 this RFA.

First, three 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 scientific merit score, for each application they review. Next, IES will calculate an average Significance of the Transformative Solution score for each application based on the initial scores from each reviewer and will prepare a preliminary rank order of applications. IES will also calculate an average overall scientific merit score for each application based on the initial scientific merit scores from the primary reviewers. For those applications that have the most competitive Significance of the Transformative Solution scores, IES will prepare a preliminary rank order of applications based on overall scientific merit. The preliminary rank order will be prepared before the full peer review panel convenes to complete the review of applications.

The full panel will consider and score only those applications deemed to have the strongest transformative potential and to have the highest scientific merit, as determined by the preliminary rank ordering process described above. A panel member 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.

B. Review Criteria for the Transformative Research in the Education Sciences Grants Program

Reviewers will assign an independent score for each criterion as well as an overall scientific merit score. The criteria that contribute to the scientific merit of the project include Significance of the Transformative Solution, Research Approach, Deliverables and Metrics Plan, Personnel, Resources, and Dissemination.

1. Significance of the Transformative Solution

Does the applicant address the recommendations described in the Significance of the Transformative Solution section?

Does the applicant leverage insights from the learning sciences and advances in technology to create and conduct transformative research on a technology solution? Does the proposed technology solution have the potential to dramatically improve the education experience for learners and reduce persistent education inequities?

Does the applicant effectively integrate insights from the learning sciences into the proposed solution?

Does the applicant make a compelling case that, if successful, this work will lead to substantially improved learner outcomes? How big will that improvement likely be?

2. Research Approach

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

Does the applicant provide well-reasoned and appropriate strategies, methodologies, and analyses to accomplish the specific aims of the project?

Does the applicant present strategies to maintain objectivity, as appropriate for the work proposed?

Does the applicant provide a well-informed overview of the risks to the proposed approach?

Does the applicant articulate how they will continually assess their approaches and progress toward meeting project goals and a strategy for altering their plans, if needed? Are the potential rewards commensurate with the level of risk identified?

Does the applicant provide a compelling logic of the approach despite the lack of experimental details and preliminary or pilot data?

3. Deliverables and Metrics Plan

Does the applicant address the recommendations described in the Deliverables and Metrics Plan section?

Are the deliverables and metrics clearly described in a way that they can be used as evidence that the project is meeting its objectives?

Are the metrics high quality and will they address the potential for the proposed solution to make a meaningful impact on learner outcomes?

4. Personnel

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

Do the principal investigator and other key personnel possess appropriate experience to carry out the work as planned and to work with populations of learners from the underrepresented communities the project addresses?

Are there personnel on the team with experience bringing products to market?

Is the partnership model between research, product development, and education agency partners likely to lead to productive, interdisciplinary collaboration?

Will key personnel commit sufficient time to implement the proposed work?

5. 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?

Does the applicant have meaningful commitments from each partner to support implementation and increase the likelihood that the project is successful?

6. Dissemination

Does the applicant address the recommendations described in Appendix A: Dissemination History and Plan?

Does the applicant describe a dissemination history that demonstrates past success in sharing results of related education research widely and appropriately?

Does the applicant have a history of successfully scaling up products?

Does the applicant present a dissemination plan that is tailored to the purpose of the project and designed to reach a wide range of audiences?

Part IV: Preparing Your Application

A. Overview

The application contents—individual forms and their PDF attachments—represent the body of an application to IES. Read the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf) to learn how to prepare a complete application that is submitted on time to grants.gov (https://grants.gov).

B. General Formatting

To ensure that reviewers can read your application and that all applicants have similar expectations for length and space, IES specifies the following formatting conventions. Adherence to type size and line spacing requirements is necessary so that no applicant will have an unfair advantage by using small type or by providing more text in their applications. These requirements apply to the PDF file as submitted, unless otherwise specified. For an application to be compliant and sent forward for review, the applicant should ensure that each narrative section follows both the page limit maximums and the formatting guidelines below unless otherwise specified.

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

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

3. Spacing
Text must be single spaced.

4. Type Size (Font Size)
Type must conform to the following three requirements:
- The height of the letters must not be smaller than a type size of 12-point.
- Type density, including characters and spaces, must be no more than 15 characters per inch (cpi). For proportional spacing, the average for any representative section of text must not exceed 15 cpi.
- Type size must yield no more than 6 lines of type within a vertical inch.

You should check the type size using a standard device for measuring type size, rather than relying on the font selected for a particular word processing/printer combination. Small type size makes it difficult for reviewers to read the application; consequently, the use of small type will be grounds for IES to return the application without scientific peer review.

As a practical matter, if you use a 12-point Times New Roman font without compressing, kerning, condensing, or other alterations, and use footnotes sparingly, if at all, the application will typically meet these requirements. Readability should guide your selection of an appropriate font and your use of footnotes.

5. Citations
Use the parenthetical author-date style for citations rather than numeric citations that correspond to the reference list.

6. Graphs, Diagrams, and Tables
Use black and white in graphs, diagrams, tables, and charts. If color is used, check that the material reproduces well if 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 (see Part II: Competition Requirements and Recommendations) is followed by several appendices. As noted in Part II, 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 you will 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/FY2024_submission_guide.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 the peer reviewers will evaluate 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.** IES suggests including one page for the Dissemination History and two pages for the Dissemination Plan. If Appendix A exceeds this three-page limit, IES will remove any pages after the third page of the appendix before it is forwarded for scientific peer review.

(a) Dissemination History

The dissemination history is intended to demonstrate that the research and development you and your project team 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. PIs who have never led an IES grant should focus on dissemination history of related, past research projects in which they and their project team have participated or other relevant research dissemination activities both within and outside the scholarly community. Reviewers will use this information to determine whether the project personnel have dissemination experience that will support the proposed dissemination plan.

The dissemination history should include the following:
- A brief description of the outcomes of prior research and development, 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 and have evidence of impact on learner outcomes or of the validity and reliability of the assessment for intended purposes and learners, 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).

- Descriptions of 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 purpose of the project.

Describe the plans you have for scaling the technology solution in the future should it demonstrate a positive impact on learners' education outcomes through an efficacy study designed to meet What Works Clearinghouse Standards. These plans should not be carried out until there is sufficient evidence demonstrating a meaningful positive impact on learners' education outcomes. Address the following:

1) The marketing and scaling strategy for the technology. Describe the targeted market and provide a brief profile of the potential customer. Describe what hurdles must be overcome to gain market/customer acceptance of the technology. Describe any strategic alliances, partnerships, or licensing agreements that you would seek out to help market and scale the product.
2) Describe the necessary financing that would be required to support the marketing and scaling of the technology and your preliminary plans to secure those funds.

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

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

If your application is a resubmission, you **must** include Appendix B. If your application is one that you consider to be new but that is similar to a previous application, you should include Appendix B. Appendix B **must** meet the general formatting guidelines **and be no more than three pages**. If Appendix B exceeds this page limit, IES will remove any pages after the third page of the appendix before it is forwarded for scientific peer review. Note that an application that was previously submitted to a different IES grant competition may be considered a resubmission.

Use Appendix B to describe how the revised application is responsive to prior reviewer comments. If you have submitted a somewhat similar application in the past but are submitting the current application as a new application, you should use Appendix B to provide a rationale explaining why the current application should be considered a "new" application rather than a "resubmitted" application.

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

3. Appendix C: Supplemental Charts, Tables, and Figures and Examples of Technology Materials (Optional)

Appendix C **must** meet the general formatting guidelines and be **no more than 15 pages**. If Appendix C exceeds this page limit, IES will remove any pages after the 15th page of the appendix before it is forwarded for scientific peer review. In Appendix C, you may include figures, charts, or tables with supplementary information like a timeline for your research project that identifies the timing of key deliverables and the collection of metrics that demonstrate the project is meeting its objectives, 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. You may also include examples of curriculum materials, computer screen shots, assessment items, or other materials related to the technology that will be developed.

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

4. Appendix D: Letters of Agreement (Optional)

There is **no recommended page length** for Appendix D. Use this appendix to provide copies of letters of agreement from schools, districts, industry partners, universities, research organizations, platform developers, and/or other settings or data sources that will be a part of or will provide data for the proposed project and/or individuals who will serve as consultants. You may also use this appendix to provide copies of up to a total of 3 letters that provide clear evidence of the education problem or issue's importance to educators or that demonstrate a promising cost sharing partnership. 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/FY2024_submission_guide.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 time commitment and timing of participation, the required space and personnel resources that the organization is prepared to contribute to the research project, and the ways that organization personnel will be expected to coordinate with the research team (e.g., quarterly meetings with administrative staff and weekly research team observations in classrooms) if the application is funded. A common reason for projects to fail is loss of participating schools and districts. Letters of agreement regarding the provision of data should make it clear that the author of the letter will provide the data described in the application for use in the proposed research and in time to meet the proposed schedule.

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

5. Appendix E: Data Sharing and Management Plan (Optional)

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

When the PI and the AOR sign the cover page of the grant application, they will be assuring compliance with the IES Policy Regarding Public Access to Research (https://ies.ed.gov/funding/researchaccess.asp) as well as other policies and regulations governing research awards. This entails uploading full text of accepted or published manuscripts to ERIC that are based on IES-funded data, and for certain types of projects, the sharing of data.

While not required for this competition, IES encourages applicants to include a data sharing and management plan (DSMP) and may request that applicants develop one if they are recommended for funding and their project has characteristics similar to projects that are required to have DSMPs from other IES grants programs. See the Implementation Guide for Public Access to Research Data (https://ies.ed.gov/funding/datasharing_implementation.asp) and our FAQs (https://ies.ed.gov/funding/datasharing_faq.asp) for additional guidance on developing a DSMP.

The DSMP should include the following:

- Identification of the preregistration repository where you will pre-register your study within the first year of the project, following the Standards for Excellence in Education Research (SEER; https://ies.ed.gov/seer/preregistration.asp).

- Identification of the data repository where you plan to share your data, and an indication of the selected repository's adherence with the National Science and Technology Council document entitled "Desirable Characteristics of Data Repositories for Federally Funded Research".

- Type of data to be shared.

- Approach to curating, cleaning, and preparing data for sharing, taking into consideration guidance from IES's Sharing Study Data: A Guide for Education Researchers (https://ies.ed.gov/ncee/pubs/2022004/).

- 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.

- Intentions to share analysis code to support reproducibility, including format and location.

- Procedures for managing and for maintaining the confidentiality of Personally Identifiable Information.

- Roles and responsibilities of project or institutional staff in the management and retention of research data, including a discussion of any changes to the roles and responsibilities that will occur should the project director/principal investigator and/or co-project directors/co-principal investigators leave the project or their institution.

- Expected schedule for data sharing, including how long the data will remain accessible (no later than publication of findings in a peer-reviewed publication and available for at least 10 years) and acknowledgement that the timeframe of data accessibility will be reviewed at the annual progress reviews and revised as necessary.

- Whether or not users will need to sign a data use agreement and, if so, what conditions they must meet.

- Any circumstances that prevent all or some of the data from being shared (This includes data that may fall under multiple statutes and, hence, must meet the confidentiality requirements for each applicable statute including data covered by Common Rule for Protection of Human Subjects, FERPA, and HIPAA.).

- Approaches to disseminating the availability and location of data to support discoverability for reuse purposes.

The costs associated with implementation of the DSMP 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 DSMP. If your application is being considered for funding based on the scores received during the scientific review process but your DSMP is determined incomplete, you will be asked to provide additional detail regarding your DSMP.

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

D. Other Narrative Content

In addition to the project narrative (see [Part II: Competition Requirements and Recommendations)](#) and required and optional appendices (see above), you will also prepare a project summary/structured abstract, a bibliography and references cited, an exempt or non-exempt research on human subjects narrative, and biosketches for key personnel and consultants to include as file attachments in your application. See the IES Application Submission Guide [(https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf)](https://ies.ed.gov/funding/pdf/FY2024_submission_guide.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/)](https://www.grants.gov/).

1. Project Summary

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

(a) Title

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

(b) Project Summary

The purpose of the project summary is to provide a high-level overview of the project that is accessible to a range of audiences, such as policymakers, practitioners, and the 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 transformative solution that leverages principles derived from the learning sciences and advances in technology to address a persistent challenge in education. This should include why the research is important, what about the idea is transformative, and the expected outcomes of the project.
- **Project Activities**: An overview of the sample, research design, and methods. This section should also identify the roles of each of the partners (research, product development, and education agency).
- **Dissemination**: Describe what will be learned and how that information will be 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 project activities 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 who will participate in the proposed project activities, 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.

- **Technology Product**: A brief description of the technology product that is the focus of the proposed work.

- **Research Design and Methods:** A brief description of the major features of the research and development activities that are being proposed in the application, including a brief description of the project timeline.

- **Control Condition:** If applicable, a brief description of the control or comparison condition, including the participants and what they will experience. State that there is no treatment contrast, when relevant.

- **Key Measures:** A brief description of key measures, including what constructs the measures assess and identification of the measures of meaningful education outcomes.

- **Data Analytic Strategy:** A brief description of the data analytic strategies that the research team will use to answer the research questions.

- **Cost Analysis:** A brief description of the cost and/or cost-effectiveness analyses planned.

- **Related IES Projects:** A list of the IES-issued award number and/or corresponding online abstract link (URLs) to completed or ongoing IES-funded projects that are directly related to the proposed project.

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. As a reminder, you should use the author-date style for citations in the project narrative (see Part IV.B.5 Citations for more information).

3. Human Subjects Narrative

You **must** submit an exempt or non-exempt human subjects narrative as a separate PDF attachment in the application package. We do not recommend a page length for the human subjects narrative. See *Information About the Protection of Human Subjects in Research Supported by the Department of Education* (https://www2.ed.gov/policy/fund/guid/humansub/hrsnarrative1.html) for a brief overview of principles, regulations, and policies which affect research involving human subjects in research activities supported by the Department of Education.

Address how the Revised Common Rule will affect the 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 IRB approval at the time you submit your application. However, if an application that involves non-exempt human subjects research is recommended for funding, the designated U.S. Department of Education official will request that you obtain and send the certification to the Department within 30 days of the formal request from the Department.

4. Biographical Sketches for Key Personnel

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

Biographical sketches are submitted as separate PDF attachments in the application package. IES strongly encourages applicants to use SciENcv (https://www.ncbi.nlm.nih.gov/sciencv/) where you will find an IES biosketch form. IES will accept the SciENcv format for your biographical sketch even though it does not adhere exactly to our general formatting requirements. You may also develop your own biosketch format. If you use SciENcv, the information on current and pending support will be entered into the IES biosketch template. If you use your own format, you will need to provide this information in a separate table.

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

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.

Include an individual, digital persistent identifier (PID) such as an ORCID iD (Open Researcher and Contributor; https://orcid.org/) in the biosketches for all key personnel. If you or any key member of your project team does not yet have a PID, IES encourages you to establish one as soon as possible, given the requirement that all key personnel are required to have a PID in place before an award will be made.

Part V: Competition Regulations and Application Process

A. Funding Mechanisms and Restrictions

1. Mechanism of Support

IES intends to award cooperative agreements pursuant to this Request for Applications.

2. Funding Available

Although IES intends to support research projects as 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.

Please attend to the duration and budget maximums in Part I.

3. Special Considerations for Budget Expenses

(a) Indirect Cost Rate

Applicants are expected to apply their institution's federally negotiated indirect cost rate when developing a budget for the proposed research project.

If your institution does not have an indirect cost rate and you receive a grant from IES, the Indirect Cost Group (ICG) in the U.S. Department of Education's Office of the Chief Financial Officer (https://www2.ed.gov/about/offices/list/ocfo/fipao/faq.html) can help with obtaining an indirect cost rate once the grant is awarded. Please note that the ICG is not available for assistance during the application preparation process.

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

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

(b) Meetings and Conferences

If you are requesting funds to cover expenses for hosting meetings or conferences, please note that there are statutory and regulatory requirements in determining whether costs are reasonable and necessary. Please refer to the Office of Management and Budget's (OMB's) Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance), 2 CFR, §200.432 Conferences (https://www.ecfr.gov/cgi-bin/text-idx?SID=dcd3efbcf2b6092f84c3b1af32bdcc34&node=se2.1.200_1432&rgn=div8).

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

4. Program Authority

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

You will need supporting evidence of partnership or access for all of the following:

(1) Conducting research in or with education settings
If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to education settings, you will need to provide documentation that you have access to the necessary settings in order to receive the grant. This means that if you do not have permission to conduct the proposed project in the necessary number of settings at the time of application, you will need to provide documentation to IES indicating that you have successfully recruited the necessary number of settings for the proposed research before the full first-year costs will be awarded. If you recruited sufficient numbers of settings prior to the application, IES will ask you to provide documentation that the settings originally recruited for the application are still willing to partner in the research.

(2) Using secondary datasets
If your application is being considered for funding based on scientific merit scores from the scientific peer review panel and your research relies on access to secondary datasets (such as federally collected datasets, state or district administrative data, or data collected by you or other researchers), you will need to provide documentation that you have access to the necessary datasets in order to receive the grant. This means that if you do not have permission to use the proposed datasets at the time of application, you must provide documentation to IES from the entity controlling the dataset(s) before the grant will be awarded. This

documentation must indicate that you have permission to use the data for the proposed research for the time period discussed in the application. If you obtained permission to use a proposed dataset prior to submitting your application, IES will ask you to provide updated documentation indicating that you still have permission to use the dataset to conduct the proposed research during the project period.

(3) Building on existing studies
You may propose studies that piggyback onto an ongoing study, which will require access to those subjects and data. In such cases, the principal investigator of the existing study should be one of the members of the research team applying for the grant to conduct the new project.

In addition to obtaining evidence of access, IES strongly advises applicants to establish a written agreement, within 3 months of receipt of an award, among all key collaborators and their institutions (including principal and co-principal investigators) regarding roles, responsibilities, access to data, publication rights, and decision-making procedures.

(c) Assessment of Past Performance

IES considers the applicant's performance and use of funds under a previous federal award as part of the criteria for making a funding decision. IES also determines the PI's compliance with the IES Policy Regarding Public Access to Research if they were the PI on previous IES grants awarded in 2012 or later (https://ies.ed.gov/funding/researchaccess.asp).

(d) Digital Persistent Identifiers (PIDs) for Key Personnel

All key personnel are required to have a digital persistent identifier, such as ORCID iD (Open Researcher and Contributor Identification; https://orcid.org/) in place before an award will be made.

2. Post Award

(a) Compliance with IES Policy Regarding Public Access to Research

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. The public access requirement 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 are asked to submit bibliographic information from the publication, including title, authors, publication date, journal title, and associated IES award number(s).

(b) Special Conditions on Grants

IES may impose special conditions on a grant pertinent to the proper implementation of key aspects of the proposed research design or if the grantee is not financially stable, has a history of unsatisfactory

performance, has an unsatisfactory financial or other management system, has not fulfilled the conditions of a prior grant, or is otherwise not responsible.

(c) Attendance at the Annual IES Principal Investigators Meeting

The 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.

(D) Cost Sharing

IES is requiring cost sharing for this program. Details about cost sharing are provided in Part II.A.5.

C. Application Process and Award Decisions

1. Submitting Your Letter of Intent

Letters of intent (LOIs) are submitted online at the IES Peer Review Information Management Online (PRIMO) system (https://iesreview.ed.gov/LOI/LOISubmit). Select the Letter of Intent form for the competition under which you plan to submit your application. The online submission form contains fields for each of the seven content areas listed below. Use these fields to provide the requested information. The project description should be single-spaced and is recommended to be no more than one page (about 3,500 characters).

The LOI is non-binding and optional but strongly recommended. If you submit an LOI, a program officer will contact you regarding your proposed research. IES staff also use the information in the LOI to identify the expertise needed for the scientific peer review panels and to secure a sufficient number of reviewers to handle the anticipated number of applications.

Elements for the Letter of Intent:
- Descriptive title.
- Brief description of the proposed project.
- Brief explanation of why this project is a good fit to the Transformative Research in the Education Sciences Grants program.
- 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 maximum).
- Estimated total budget request (attend to the Budget maximum).

2. Resubmissions and Multiple Submissions

If you intend to revise and resubmit an application that was submitted to a previous IES competition but that was not funded, you **must** indicate on the SF 424 Application for Federal Assistance Form in the application package (see IES Application Submission Guide; https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf that the FY 2024 application is a resubmission (Item 8) and include the application number of the previous application (an 11-character alphanumeric identifier beginning "R305" entered in Item 4a). Prior reviews will be sent to this year's reviewers along with the resubmitted application.

You **must describe** your response to the prior reviews using Appendix B: Response to Reviewers. Revised and resubmitted applications will be reviewed according to this FY 2024 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 2024 application is a new application. In Appendix B, you should provide a rationale explaining why your FY 2024 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 FY 2024 IES grant programs. In addition, within a particular grant program, you may submit multiple applications. However, you may submit a given application only once for the FY 2024 grant competitions, meaning you may not submit the same application or similar applications to multiple grant programs. 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 17, 2023 using the Grants.gov Workspace (https://www.grants.gov/applicants/workspace-overview.html). You must follow the application procedures and submission requirements described in the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf) and on Grants.gov (https://www.grants.gov/web/grants/applicants.html).

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

Approximately one to two weeks after the application deadline, invitation emails are sent to applicants who have never applied to IES before to create their individual PRIMO ANS accounts. Both the PI and the AOR will receive invitation emails. Approximately four to six weeks after the application deadline, all applicants (new and existing ANS users) will begin to receive a series of emails about the status of their application. See the IES Application Submission Guide (https://ies.ed.gov/funding/pdf/FY2024_submission_guide.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. Award Decisions

The following will be considered in making award decisions for responsive and compliant applications:
- Significance of the transformative solution as determined by scientific peer review.
- 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 VI: Compliance and Responsiveness Checklist

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

See the IES Application Submission Guide [(https://ies.ed.gov/funding/pdf/FY2024_submission_guide.pdf)](https://ies.ed.gov/funding/pdf/FY2024_submission_guide.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?
Have you included Appendix B: Response to Reviewers (resubmissions only)?
Responsiveness
Have you included the five required sections of the project narrative and the associated requirements for each section as listed below?   - Significance of the Transformative Solution   - Research Approach   - Deliverables and Metrics Plan   - Personnel   - Resources
Does your project propose a transformative technology solution that leverages the learning sciences and advances in technology?
Do you have a partnership between a product development partner, research partner, and an education agency? An organization may serve in multiple partnership roles (e.g., as both the research and product development partner) if it is capable of supporting the project in multiple capacities.
Does your project address and measure education outcomes of learners at any grade or education level between prekindergarten through postsecondary and adult education?

This checklist continues on the next page.

Project Narrative Requirements for Responsiveness				
Significance of the Transformative Solution	Research Approach	Deliverables and Metrics Plan	Personnel	Resources
You must describe: • The technology solution that will be researched and developed in this project, the learners it is intended to support, and the education outcomes it is proposed to improve. o The technology may be for use at the learner, teacher, K-12 school, institution of higher education (IHE), adult education program, and/or systems level. The proposed technology may be already developed as long as there are significant revisions or adaptations proposed. • Prior research from the learning sciences – the interdisciplinary study of how people learn and the characteristics of the learning environment that impact the learning process - relevant for the proposed research and development work.	You must describe the approach to: • Research on and development of the technology solution. • Assessing product-market fit. • Conducting a cost analysis.	You must describe the: • Project deliverables. • Metrics that will provide evidence that the project is achieving its intended research and development objectives.	You must describe the: • Project team. • Partnership between a research partner, product development partner, and an education agency.	You must describe your: • Resources to conduct the project.

Part VII: Project Code

Applications to the Transformative Research in the Education Sciences Grants program (ALN 84.305T) are submitted under a single 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/FY2024_submission_guide.pdf).

All applicants should enter the code "**NCER-Transformative**" in the field for Item 4b.