REQUEST FOR APPLICATIONS

RESEARCH NETWORKS FOCUSED ON CRITICAL PROBLEMS OF EDUCATION POLICY AND PRACTICE
CFDA Number: 84.305N

Milestone	Date	Website
Letter of Intent Due	February 15, 2018	https://iesreview.ed.gov/
Application Package Available	February 15, 2018	http://www.grants.gov/
Application Due	**No later than 4:30:00pm Washington DC time on April 5, 2018**	**http://www.grants.gov/**
Applicants Notified	By August 16, 2018	https://iesreview.ed.gov/
Possible Start Dates	September 3, 2018 to September 14, 2018	

For awards beginning in FY 2018
Posted January 22, 2018

CTE Network Lead

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PART I: OVERVIEW AND GENERAL REQUIREMENTS

A. INTRODUCTION

The Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) calls for a national research center to carry out scientifically-based research and evaluation for the purpose of developing, improving, and identifying the most successful methods for addressing the education, employment, and training needs of career and technical education (CTE) participants in CTE programs [Sec. 114(d)(4)]. To fulfill this requirement for a new center, the Institute of Education Sciences (IES or Institute) will establish the **"Expanding the Evidence Base for Career and Technical Education Network"** (**CTE Network**), which will comprise a Network Lead plus several research teams that are recipients of Institute grants to evaluate CTE policies and programs at the secondary and postsecondary levels. Under this announcement, the Institute requests applications for a **Network Lead** that will be responsible for CTE Network administration and coordination, and that will carry out research, training, and dissemination activities designed to increase the number and quality of CTE impact evaluations and strengthen the capacity of the field to conduct future CTE research and evaluation.

> ***Career and technical education (CTE)*** generally comprises instruction in the academic, technical, and employability skills and knowledge required to enter into and succeed in specific occupations. At the secondary level, CTE introduces students to career fields and helps them begin to build marketable skills and, in some cases, earn credentials; at the postsecondary level, CTE provides an entry point for new or returning students to learn specific knowledge and specialized skills in a particular occupational field. At both levels, CTE often includes work-based learning experiences.

The CTE Network is part of the Institute's Research Networks Focused on Critical Problems of Education Policy and Practice (Networks) program. The purpose of this program is to focus resources and attention on education problems or issues that are high priority for the nation, and to create both a structure and process for researchers who are working on these issues to share ideas, build new knowledge, and strengthen their research and dissemination capacity. For example, the Institute is supporting a research network to study how to improve the transition from preschool to early elementary school, and another to examine the efficacy of college completion strategies that can be implemented at scale. The networks are intended to advance a field's understanding of a problem or issue beyond what an individual research project or team is able to do on its own and to assist policymakers and practitioners in using this information to strengthen education policies and programs and improve student education outcomes.

For fiscal year (FY) 2018, the Institute invites proposals on only one topic – Expanding the Evidence Base for Career and Technical Education (CTE) – and only one role: Network Lead. The Network Lead will be responsible for administering and coordinating a CTE Network involving a group of three to six CTE evaluation projects funded under other Institute competitions. The Institute will identify the projects that will be invited to participate in the CTE Network and will cover the additional costs that projects may incur by joining.[1] The CTE Network Lead will bring these project teams together and provide the vision and support that is needed for the Network to meet its goals. Specifically, the Network Lead will be

[1] Specifically, the Institute will invite relevant Efficacy/Replication and Effectiveness projects funded under the Education Research Grants (84.305A) and Special Education Research Grants (84.324A) programs, and relevant State and Local Evaluation projects funded under the Partnerships and Collaborations Focused on Problems of Practice or Policy (84.305H) program that are examining CTE interventions. Eligible projects will be selected from current NCER and NCSER projects at the time the Network Lead grant is awarded.

responsible for four major sets of activities (see Section II.B: Requirements for the Network Lead for a more detailed description):

- **Network administration and coordination**. The Network Lead will serve as the point of contact with the Institute, convene meetings and facilitate discussions among CTE Network members, and coordinate the CTE Network's supplemental research activities.
- **Research activities.** The Network Lead will conduct two projects that will complement the work of the research teams and contribute to moving the field forward: an Evaluability Assessment of CTE programs or models that may be candidates for future evaluations; and a synthesis of the CTE Network's major findings and lessons.
- **Research training.** The Network Lead will organize research training activities across the network to prepare new researchers to study CTE and to increase the capacity of the field.
- **Leadership and Dissemination.** The CTE Network Lead will develop and host a network website, organize briefings or presentations for key stakeholders, and disseminate the Network's products and findings.

For this FY 2018 competition, the Institute intends to award no more than one grant for a Network Lead. The award will be made as a cooperative agreement in order to support the Institute's involvement in the planning and implementation of the CTE Network's activities.

The Institute will consider only applications that are responsive and compliant to the requirements described in this Request for Applications (RFA) and submitted electronically via Grants.gov (http://www.grants.gov) on time.

This RFA is organized as follows. Part I sets out the general requirements for a grant application to the Institute. Part II describes the background and goals for the CTE Network and the requirements for the Network Lead. Part III provides general information on funding, award requirements, and the review process. Part IV describes how to prepare an application. Part V describes how to submit an application electronically using Grants.gov. You will also find a Glossary of important terms located at the end of this RFA. The first use of each term within each Part of this RFA is hyperlinked to the Glossary.

B. GENERAL REQUIREMENTS

1. Student Education Outcomes

All research supported under the Research Networks program must address the education outcomes of students and include measures of these outcomes. All research undertaken by CTE Network members, including the Network Lead, must address **student academic outcomes** that reflect learning and achievement in the core academic content areas (e.g., measures of understanding and achievement in reading, writing, STEM) or progression through the education system (e.g., transition from secondary to postsecondary education; postsecondary persistence, and progress; and degree or certificate completion); and **career/technical outcomes** that demonstrate students' mastery of content or skills in a CTE area or progression through the education system (e.g., grades in CTE courses, CTE credits earned, technical skills assessments, or industry certifications). When feasible, the research should also address student **employment outcomes** (e.g., employment status, wages). Finally, CTE Network members may examine students' **social behavioral** outcomes, though this is not a requirement.

2. Authentic Education Settings

Proposed research activities must be relevant to education in the United States and must address factors under the control of the U.S. education system (at the national, state, local, or school/institution level). To help ensure such relevance, the Institute requires researchers to work within or with data from authentic education settings. Authentic education settings include both in-school settings and formal programs that take place after school or out of school (e.g., after-school programs, distance learning programs, online programs, and work-based learning programs) under the control of schools or state and

local education agencies. Formal programs not under the control of schools or state and local education agencies are not considered as taking place in an authentic education setting and are not appropriate for study under the Networks program.

For the FY 18 Research Network competition, authentic education settings are defined as follows:

- **Authentic K-12 Education Settings**
  - K-12 schools and alternative school settings (e.g., alternative schools or juvenile justice settings).
  - School systems (e.g., local education agencies or state education agencies).
  - Area career and technical education schools.[2]
  - Industry or employment settings for work-based learning where there is a formal agreement between the school and the employer regarding students' expected learning outcomes.
- **Authentic Postsecondary Education Settings**
  - Colleges and universities that have education programs leading to occupational certificates, Associate's or Bachelor's degrees.
  - Area career and technical education schools.[3]
  - Industry or employment settings for work-based learning where there is a formal agreement between the college/university and the employer regarding students' expected learning outcomes.

C. APPLICANT REQUIREMENTS

For this FY 2018 competition, applicants must meet the eligibility requirements below and designate a Principal Investigator and Authorized Organization Representative.

1. Eligible Applicants

Eligible applicants include institutions of higher education, public and or private non-profit organizations or and agencies, and consortia of such institutions, organizations, or agencies. Applicants may be a single organization/institution or a group of organizations/institutions, but one organization/institution must be identified as primary (i.e., the grant recipient).

2. The Principal Investigator and Authorized Organization Representative

The Principal Investigator

The Principal Investigator (PI) is the individual who has the authority and responsibility for the proper conduct of the four sets of activities of the Network Lead, including the appropriate use of federal funds and the submission of required progress reports.

The primary institution is responsible for identifying the PI on a grant application and may elect to designate more than one person to serve in this role. In so doing, the institution identifies the PI(s) as sharing the authority and responsibility for leading and directing the research project intellectually and logistically. Partnering organizations/institutions may also designate co-PIs who will be listed on any grant award notification. However, the application must designate a single point of contact for the grant. The role of this person is primarily for communication purposes on the Network Lead activities and related budgetary aspects of the project and should be listed as the PI. All other PIs should be listed as co-Principal Investigators (co-PIs).

[2] See definition in Section 3(3) of https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf.
[3] See definition in Section 3(3) of https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf.

The PI and any co-PIs will attend one meeting each year (for up to 2 days) in Washington, DC with other Institute PIs and Institute staff. The project's budget should include this meeting.

The Authorized Organization Representative

The Authorized Organization Representative (AOR) for the applicant institution is the official who has the authority to legally commit the applicant to: (1) accept federal funding; and (2) execute the proposed project. When your application is submitted through Grants.gov, the AOR automatically signs the cover sheet of the application and, in doing so, assures compliance with U.S. Department of Education policy on public access to scientific publications and data as well as other policies and regulations governing research awards (see Part III.B Additional Award Requirements).

3. Common Applicant Questions

- *May I submit an application if I did not submit a Letter of Intent?* Yes. However, the Institute strongly encourages you to submit a Letter of Intent. If you miss the deadline for submitting a Letter of Intent, contact the program officer listed in Part II. Please see Part III.C.1 Submitting a Letter of Intent for more information.

- *Will I need to use Workspace to submit my application?* Yes. Grants.gov applicants must now use Workspace to submit a grant application. Workspace is a shared, online environment within Grants.gov where members of a grant team may simultaneously access and edit different webforms within an application. Please see Part V: Submitting your Application for more information.

- *May I submit an application to lead a network on a research topic other than CTE?* No.

- *May I submit an application to be the CTE Network Lead if I already have a CTE-related research grant from IES?* Yes.

- *How many Research Teams will form the CTE Network?* The Institute will invite current and new grantees with CTE-related evaluation projects to join the CTE Network. Participation will be voluntary. The Institute anticipates that the CTE Network will comprise at least three and no more than six Research Teams.

- *Can I apply to be a Research Team under the CTE Network?* No. Unlike previous Research Networks competitions, the Institute will build the CTE Network only by extending an invitation to Research Teams doing relevant evaluation work funded through its other programs.

- *How will the Network Lead be selected?* Applications for the CTE Network Lead role that meet the compliance and responsiveness criteria will be forwarded for peer review. The Institute intends to make no more than one (1) award for CTE Network Lead. If a larger number of applications are deemed meritorious by peer review, the Institute will award the grant to the highest ranking application, as determined by peer review.

- *When will the CTE Network begin its work?* The Institute expects to award a grant for the CTE Network Lead by September 3, 2018, and intends the Network Lead to begin its work between September 3 and September 14, 2018. The Institute will invite other CTE-related research teams to join the CTE Network after the Network Lead is chosen. These invitations will be issued and agreements made in late summer or fall 2018.

- *May I submit multiple applications to be CTE Network Lead?* No. A PI/project team may only submit one Network Lead application, even if you have ideas that are substantively different from one another.

- *May I submit a Network Lead application that involves a partnership between two or more institutions?* Yes, two or more organizations/institutions may apply together to be Network Lead. However, the application must designate one Principal Investigator as the primary point of contact for the project, and that Principal Investigator's organization/institution as having primary responsibility for budgetary compliance and reporting.

- *May I apply if I work at a for-profit organization or institution?* For this competition, the Network Lead may **not** be a for-profit organization/institution.

- *May I apply if I intend to copyright products (e.g., a curriculum) developed using grant funds?* Yes. Products derived from Institute-funded grants may be copyrighted and used by the grantee for proprietary purposes, but the U.S. Department of Education reserves a royalty-free, non-exclusive, and irrevocable right to reproduce, publish, or otherwise use such products for Federal purposes and to authorize others to do so [2 C.F.R. § 200.315(b) (2014) (http://www.ecfr.gov/cgi-bin/text-idx?SID=114a76aaaec6398e1309d731056ee2df&node=pt2.1.200&rgn=div5#se2.1.200_1315)].

- *May I apply to do research on non-U.S. topics or using non-U.S. data?* No. Researchers submitting applications under this competition must propose research on CTE in the U.S. and use data on U.S. students.

- *May I apply if I am not located in the United States or if I want to collaborate with researchers located outside of the United States?* Yes. You may submit an application if your institution is not located in the territorial United States. However, you must propose research on U.S. topics and use U.S. data. Also, institutions not located in the territorial United States (both primary grantees and sub-awardees) may not charge indirect costs.

D. PRE-AWARD REQUIREMENTS

Applicants considered for funding following scientific peer review are required to provide further information about the proposed research activities before a grant award is made (see Part III.B). If significant revisions to the project arise from these information requests they will have to be addressed under the original budget.

E. READING THE REQUEST FOR APPLICATIONS

The Institute encourages both **Principal Investigators and Authorized Organization Representatives** to read this Request for Applications to learn how to prepare an application that meets the following criteria:

1. Criteria that are required for an application to be sent forward for peer review (Requirements); and
2. Criteria that make for a strong (competitive) application and are used by the peer reviewers (Recommendations for a Strong Application).

1. Requirements

The Institute will examine all applications and determine whether they meet the following criteria. Applications that do not meet these criteria will not be sent forward for peer review.

- **RESPONSIVENESS**
    - Meets general-, topic-, and role-specific **requirements** (see Part II).
    - Meets the **Award requirements**.

- **COMPLIANCE** (see Part IV)
    - Includes all **required content** (see Part IV.D).
- **SUBMISSION** (see Parts IV and V)
    - Submitted electronically via Grants.gov no later than **4:30:00 pm**, Washington, DC time, on April 5, 2018.
    - Completed using the **correct application package** in Grants.gov (see Part IV.B).
    - Includes **PDF files** that are **named and formatted appropriately** and that are **attached to the proper forms** in the application package (see Part IV.D and Part V).

2. Recommendations for a Strong Application

In Part II.B, the Institute provides recommendations to improve the quality of your application. The scientific peer reviewers are asked to consider these recommendations in their evaluation of your application. The Institute strongly encourages you to incorporate the recommendations into your Project Narrative and relevant appendices.

F. TECHNICAL ASSISTANCE FOR APPLICANTS

The Institute encourages you to contact the program officer for this competition as you develop your application. The program officer can provide guidance on substantive aspects of your application and answer any questions prior to submitting an application. The program officer for this competition is Dr. Corinne Alfeld, who may be reached at (202) 245-8203 or Corinne.Alfeld@ed.gov.

The Institute asks potential applicants to submit a Letter of Intent prior to the application submission deadline to facilitate communication with the program officer and to plan for the peer-review process. Letters of Intent are optional but strongly encouraged (see Part III.C.1 Submitting a Letter of Intent for more information). If you submit a Letter of Intent, the program officer will contact you regarding your proposed research. Institute staff also use the information in the letters of intent to identify the expertise needed for the scientific peer-review panels and to secure a sufficient number of peer reviewers to handle the anticipated number of applications.

In addition, the Institute encourages applicants to view a webinar that will be available by February 14, 2018 on its Funding Opportunities page for advice on preparing an application for CTE Network Lead: http://ies.ed.gov/funding/webinars/index.asp.

PART II: NETWORK PURPOSE AND REQUIREMENTS

A. BACKGROUND AND GOALS FOR THE CTE NETWORK

1. Overview of Career and Technical Education (CTE) Network

In establishing a CTE Network, the Institute is particularly interested in increasing the number of impact studies examining the effects of CTE policies, programs, and practices on students' academic, career and technical, and employment outcomes. As described in this RFA, the Institute seeks to fund a **Network Lead** that will be responsible for administering and coordinating a CTE Network to carry out scientifically based research and evaluation for the purpose of developing, improving, and identifying the most successful methods for addressing the education, employment, and training needs of CTE participants in CTE programs. Its specific aims are: 1) to increase the evidence base about the impact of CTE programs and policies on student outcomes, and 2) to increase the pipeline of new CTE researchers (see Section II.B. for specific requirements).

The Institute will identify research teams from relevant evaluation projects (including Goal 3 and Goal 4 projects, as well as State/Local evaluations) funded under its other competitions to join the CTE Network after the Network Lead is chosen and will provide supplemental funding for their participation. Members of the CTE Network will be expected to collaborate with each other and with the Network Lead through discussing research plans, designing and carrying out new research, sharing emerging findings, and giving and receiving constructive feedback.

This section will serve as background and justification for the CTE Network, as well an explanation of the Institute's expectations for the CTE Network after the Lead has been awarded and the research teams have been invited to join.

2. Background

Career and technical education (CTE) generally comprises instruction in the academic, technical, and employability skills and knowledge required to enter into and succeed in specific occupations.[4] At the secondary level, CTE introduces students to possible career fields and allows them to begin to build marketable skills and, in some cases, earn credentials; at the postsecondary level, CTE provides an entry point for new or returning students to learn specific knowledge and specialized skills in a particular occupational field. A hallmark of CTE is the opportunity for students to engage in work-based learning experiences outside of school (e.g., internships) as part of their CTE coursework. CTE (formerly called "vocational education") has historically prepared students for direct entry into work after high school. However, as our economy continues to evolve and postsecondary education has become a pre-requisite for most skilled jobs (Carnevale, Smith, & Strohl 2013), high quality CTE has also become a launching point for a variety of postsecondary options in a variety of occupational areas.[5]

At the secondary level, CTE instruction is primarily delivered via elective coursework in the high school building or at an area CTE center. It is estimated nationally that 85% of high school students take at least one CTE course (NCES, 2013), and many students take more than one CTE course (Dougherty, 2016). In the last decade, statutory requirements[6] in Perkins IV have spurred secondary CTE to become more formally organized into course sequences called programs of study, or career pathways, that often include postsecondary level courses offered to secondary students via dual enrollment with a community or technical college (Symonds, Schwartz, & Ferguson, 2011; Visher & Stern, 2015). Linked Learning[7] and

[4] For the Perkins IV definition, see Section 3(5) of https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf.
[5] A widely used framework of "career clusters" (within which are over 79 career pathways) guides educators in organizing curriculum and students in planning coursework. The common career technical core identifies the specific academic and technical skills necessary in each career pathway.
[6] Carl D. Perkins Career and Technical Education Act of 2006, Section 122(c)(1)(A).
[7] http://www.connectedcalifornia.org/linked_learning; https://www.sri.com/work/projects/evaluation-california-linked-learning-district-initiative

Pathways to Prosperity[8] are examples of types of career pathways models that are being implemented in multiple states. As of 2010, most states had developed at least some statewide programs of study,[9] though levels of implementation varied across districts (National Assessment of Career and Technical Education, 2014).

Secondary CTE is also delivered via whole-school (Neild, Boccanfuso, & Byrnes, 2013) and school-within-a school career academies (Stern, 1992). Career academies offer the structure of a small learning community of cohorts of students advancing together and learning both academic and technical skills, often in an integrated fashion; they are organized around one or two specific occupational areas that are aligned with industry and can lead to postsecondary courses of study (Maxwell & Rubin, 2002). It is now estimated that over 7,000 career academies exist in the U.S., enrolling approximately 1 million students (National Career Academy Coalition, 2017). An experimental study of career academies conducted in New York City in the 2000s showed that this model increased earnings among males (Kemple & Willner, 2008). More well-designed evaluations of a variety of CTE programs are needed to identify their impacts on students to assist state and district decision-making.

At the postsecondary level, community and technical colleges have primary responsibility for delivering CTE instruction in programs that lead to an industry recognized credential, certificate, or associate's degree. Recent research on the returns to such programs finds that while associate's degrees and long-term certificates (one or more years of training) have immediate positive effects on employment, associate's degrees have far greater returns than certificates in the long run (Belfield & Bailey, 2017; Minaya & Scott-Clayton, 2017). Few studies have examined outcomes disaggregated by occupational area (but see Stevens, Kurlaender & Grosz, 2015), student subgroup, or program characteristics. More research is needed on the impact of programs and program features on students with various backgrounds and characteristics. Moreover, few studies using random assignment to test the impact of participating in postsecondary CTE have been conducted. One exception is a recent impact evaluation of a federally-funded health career pathways program, which found that participation increased credentials earned and employment in a healthcare occupation (Farrell & Martinson, 2017).[10]

There are a number of conceptual and methodological challenges to conducting research on the impact of CTE programs, practices, and policies on student outcomes. Unlike academic subjects that are required for high school graduation, students self-select into elective CTE courses at the secondary level. In addition, the range and quality of instructional offerings within and across schools can make it difficult for researchers to isolate the "treatment" with certainty. Self-selection bias and identification of appropriate counterfactuals need to be taken into account in framing research questions and designing experimental and quasi-experimental studies related to the impact of CTE participation.[11] There is no consensus on measures (such as standardized tests) in CTE; researchers must find or develop reliable and valid outcome measures that are meaningful beyond their particular context. Finally, study duration and cost are also barriers in following students to obtain post-graduate employment outcomes. The Institute intends for the CTE Network to address these and other conceptual and methodological challenges and offer guidance that will advance the field.

[8] http://www.jff.org/initiatives/pathways-prosperity-network
[9] https://cte.careertech.org/sites/default/files/Final_CC_POS_StateoftheStates__3.pdf
[10] This program (HPOG) and its evaluation were funded by the Department for Health and Human Services. See https://www.acf.hhs.gov/opre/research/project/evaluation-portfolio-for-the-health-profession-opportunity-grants-hpog.
[11] See the What Works Clearinghouse standards for information about research designs to detect causal impact.

B. REQUIREMENTS FOR THE CTE NETWORK LEAD

1. Career and Technical Education Network Lead Requirements

Program Officer: Dr. Corinne Alfeld (202-245-8203; Corinne.Alfeld@ed.gov)

a) Overview

The Institute is establishing the CTE Network to fulfill the requirements in section 114(d)(4) of the Carl D. Perkins Career and Technical Education Act of 2006 (Perkins IV) for a new national research center.[12] The Network Lead will play a critical role in convening CTE Network members and providing the support needed to make sure the CTE Network functions smoothly and accomplishes its research, training, and dissemination goals. Eligible applicants may present their ideas for how to structure the Network Lead role. For example, the Network Lead may be one institution, or it may represent a partnership between two or more institutions that bring strong, complementary skill sets to carry out the work. Similarly, applicants may propose a single Principal Investigator (PI) or two or more co-PIs (these may be at different institutions), with one acting as the Project Director. The Network Lead may involve other key personnel under either approach.

Whatever organizational and staffing structure is used, the Network Lead should include personnel with a record of scholarship and national recognition in both CTE and in causal research and show a strong commitment to building new knowledge about the impact of CTE programs, practices, and policies on student outcomes. The PI or co-PIs should also have strong facilitation skills and experience working in teams. Finally, the PI or co-PIs will serve as spokesperson(s) for the Network and should be skilled in interacting with researcher, policymaker, and practitioner audiences.

The Network Lead is responsible for four major sets of activities:

(i) **Network Administration and Coordination.** The Network Lead's role includes facilitating network communications and meeting planning. It also includes coordinating and overseeing the supplemental research activities of the network, with responsibility for leading the planning and approval process, and overseeing the collaborative work undertaken by network members.

The Network Lead is expected to convene at least two in-person meetings during each year of the network, though additional in-person and teleconference meetings may be arranged as needed. The meetings are intended to serve multiple purposes: build interpersonal and cross-team relationships, facilitate exchange of ideas and information, review and provide feedback on draft instruments and documents, plan collaborative activities, and coordinate dissemination. The Institute requests that at least one in-person meeting each year be held in Washington, DC to allow participation by Institute staff and may be coordinated with the annual PI meeting for all Institute grantees (typically in the fall or winter of each year); the Institute will provide meeting space to help reduce costs. The Network Lead will determine the timing and place of the second annual in-person meeting. Other meetings may take place in person or via conference calls.

To support cross-project collaboration and move the CTE research field forward, the Institute will set aside up to $1 million in additional funds for supplemental activities undertaken jointly by CTE Network members. The supplemental activities, which should go beyond the scope of the teams' existing project grants, are to be jointly designed and carried out by two or more network teams (which may include the Network Lead) and must be consistent with the requirement in section 114(d)(4)(A) of Perkins IV to carry out scientifically based research and evaluation for the purpose of developing, improving, and identifying the most successful methods for addressing the education, employment, and training needs of CTE participants in CTE programs. The Network Lead will be responsible for leading the planning of supplemental projects, submitting

[12] The legislation can be accessed at https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf

proposals to the Institute for approval,[13] and ensuring the conduct of the work by network members. The CTE Network may propose to use the funds for a single supplementary activity or several, smaller supplementary activities. For example, network members may want to work together on developing a new measurement tool; undertake some new exploratory research that will benefit current projects; or work together on a book or other joint publication. These examples are illustrative, and networks are encouraged to propose other ideas after they begin working together. The Institute will begin accepting proposals for supplementary activities during the second year the network is in operation and will review proposals on a rolling basis until the supplementary funds are used or the beginning of the fifth year of the grant, whichever comes first.

Applicants for the Network Lead should not budget for supplementary activities in their applications; rather, this budget will be determined after the network is formed. Research teams that are invited to join the network will work with the Network Lead to generate ideas and set priorities.

(ii) **Research Activities.** In order to meet the requirements in section 114(d)(4) of Perkins IV,[14] the Network Lead will conduct two research activities to advance the CTE research field, as follows.

a. *Evaluability Assessment.* The Network Lead will conduct an Evaluability Assessment (also called an "exploratory evaluation," "pre-evaluation" or "feasibility study") of promising CTE models/programs at either the secondary and/or the postsecondary level. The purpose of the Evaluability Assessment is to determine the readiness of a model or program (e.g., a career pathway, a career academy) for an impact evaluation that meets What Works Clearinghouse standards with or without reservations. The final report of the Evaluability Assessment should conclude with the identification of at least two and no more than six CTE models/programs that are suitable for an evaluation to assess their impact on student outcomes.

> **Evaluability**
> "The extent to which an activity or project can be evaluated in a reliable and credible fashion" (OECD-DAC 2010; p.21).
>
> **Evaluability Assessment**
> "Before devoting institutional dollars to a full-scale program evaluation that may be costly and time intensive, a pre-evaluation strategy known as evaluability assessment can be used to determine whether a program meets the minimal preconditions necessary for the results of a full-scale evaluation to be meaningful and useful to college decisionmakers" (McKinney, 2010, p. 299).

This research activity entails determining the program implementers' willingness to participate in an evaluation as well as collecting detailed information on program implementation to determine the feasibility of conducting an evaluation (Rossi, Lipsey, & Freeman, 2004). Applicants should plan to look for the presence of a strong underlying theory of change, the number of students entering and completing the program, the prospects for identifying a comparison/control group, the service contrast between what program group members and comparison/control group members would receive while the program was being evaluated, the availability of and access to

[13] See established guidelines from prior networks here: https://ies.ed.gov/ncer/pdf/Process_for_Requesting_Supplemental_Funding_for%20Research_Networks.pdf
[14] See Section 114(d)(4) of https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf.

relevant program and outcome data, and the interest among different stakeholders (e.g., state and local policymakers, program administrators and staff, funders) to participate in a rigorous evaluation of the model/program. Applicants should propose a plan that describes the process of selecting programs/models to assess, the conduct of site visits, and the factors to be included in determining each program's/model's evaluability.

The Institute intends for the Evaluability Assessment to inform new evaluation research on CTE that would meet the requirements for the Institute's Goal 3 (efficacy) or Goal 4 (effectiveness) studies. Therefore, a draft of the Evaluability Assessment should be completed within 15 months from the time the Network Lead is awarded, and a final draft should be completed and made available to the public no later than the end of the second year that the Network is in operation. The Institute expects the final Evaluability Assessment report to be posted on the CTE Network website and on the Educational Resources Information Center (ERIC, http://eric.ed.gov).

b. *Synthesis of Research Findings.* With involvement from the network members, the Network Lead will conduct a synthesis of key findings from the evaluations completed by the network members, as well as other relevant NCER-funded CTE research projects. The synthesis will categorize and describe the research funded to date, discuss the similarities and differences in findings across projects, reflect on the implications of the findings, and identify future steps for research. Target audiences will include policymakers, practitioners, and researchers, and separate products may be produced with each audience in mind. For instance, a synthesis for non-researchers should help the audience understand the limits of the findings, particularly regarding causal inference and generalization beyond the samples in the studies. A synthesis targeting policymakers and practitioners may also place more emphasis on program implementation and taking effective strategies to scale, while a synthesis targeting researchers may place more emphasis on challenges and solutions related to conducting large-scale evaluations of CTE programs and measuring student outcomes.

The Institute envisions the synthesis to be completed within the last year of the grant award. Network members and Institute staff should be involved in reviewing and providing feedback on the synthesis. The completed synthesis should be posted on the Network website and ERIC https://eric.ed.gov/, and the Institute expects the Network Lead to pursue other peer-reviewed publication venues.

(iii) **Research Training.** The Network Lead will organize training opportunities to improve the field's capacity to carry out CTE research and prepare future CTE researchers. These opportunities may be designed for early career researchers, midcareer researchers, and/or state and local agency personnel. For example:

- The Network Lead may support predoctoral students by including them in the Network's research activities (e.g. by funding research assistantships on the Lead's or Network members' projects). In this case, the Institute would expect the Network Lead to provide mentoring or other support to ensure that the students acquire new content knowledge and methodological skills.
- The Network Lead may offer formal workshops or online training on major issues in CTE research, methodological challenges and approaches, access to and use of data, and other topics of interest to the CTE research community or others interested in getting involved in CTE research.
- To support state and local policymakers and practitioners, the Network Lead may offer formal workshops or online training to help them understand the strengths and weaknesses of different approaches to evaluating CTE, develop research plans to

answer questions important to their agencies, and use evidence in their decision-making.

These examples are illustrative, and applicants for the Network Lead should propose research training activities that they believe will offer the most benefit to the CTE Network and the field.

(iv) **Leadership and Dissemination.** The Institute envisions the Network Lead as a hub for CTE research. This includes hosting a website that will communicate the goals and objectives of the CTE Network, describe the projects of the Network Lead and the research teams that join the network, and make the network's research papers and products available to the public at no cost. The Network Lead may also wish to include information on its website that could be helpful to other CTE researchers (e.g., a list of common data collection tools or available datasets).The Institute also encourages applicants to use social media and electronic forms of communication (such as webinars, podcasts, and videos) to broaden the reach of the CTE Network at a relatively low cost.

Finally, the Institute expects the Network Lead to organize briefings or presentations about CTE findings for federal and state policymakers and host meetings or conferences for particular groups of CTE stakeholders (this could include state and local agency representatives and industry groups). These events should be two-directional, allowing the network members to discuss research objectives and findings and to elicit feedback to improve the quality and relevance of the research. The Network Lead should also look for opportunities for network members to present their work at national conferences involving education policymakers, practitioners, and researchers. The Institute strongly encourages the Network Lead to submit a panel presentation to an existing conference or hold a final conference of its own to discuss findings and implications of the CTE Network for future policy, practice, and research.

b) REQUIREMENTS AND RECOMMENDATIONS

Applicants for the CTE Network Lead **must meet the requirements set out under (1) Project Narrative and (2) Awards** in order to be responsive and sent forward for peer review. The requirements are the minimum necessary for an application to be considered. In order to improve the quality of your application, the Institute offers recommendations following each set of project narrative requirements.

1) Project Narrative

The project narrative (recommended length: no more than 25 pages) for a CTE Network Lead application **must include four sections**:

a. Significance;
b. Network Lead plan, including a plan for:
    (1) Network Coordination and Administration
    (2) Research Activities, including the Evaluability Assessment and the Research Synthesis
    (3) Research Training
    (4) Leadership and Dissemination;
c. A description of personnel qualifications; and
d. A description of organizational resources.

Below are the requirements and recommendations for each section.

a. Significance

Requirements:
In order to be responsive and sent forward for scientific peer review, your Significance section must include a discussion of the major issues facing CTE practice today and how research can support the implementation of CTE programs and policies that will improve student outcomes.

Recommendations for a Strong Application:
In order to address the above requirement, the Institute recommends that you include the following in your Significance section to provide a compelling rationale for your CTE Network Lead role.

- Explain the significance of the work the CTE Network Lead will carry out to meet the requirements in section 114(d)(4) of Perkins IV.[15]
- Demonstrate your expertise in program evaluation using methodologies to establish the causal effects of policies and programs (e.g. randomized controlled trials, regression discontinuity designs).
- Demonstrate your expertise in CTE policies and programs by describing how they evolved and are currently delivered, and by discussing any new models and directions. Be sure to include a discussion of CTE at both the secondary and postsecondary levels.
- Describe your understanding of the current state of CTE research and how the CTE Network may advance the field.
- Describe evidence about CTE's impact on students from studies completed to date, critical gaps or questions, and potential new research directions.
- Describe the practical and methodological challenges to conducting CTE research and what these imply for research and for researcher training.

b. Network Lead Plan

Requirements:
In order to be responsive and sent forward for peer review, your Network Lead section **must** include a Network Lead plan with four subsections:

(1) a plan for Network Coordination and Administration;
(2) a plan for Research Activities, including an Evaluability Assessment and a Research Synthesis;
(3) a plan for Research Training Activities; and
(4) a plan for Leadership and Dissemination.

Recommendations for a Strong Application:
In order to address the above requirements, the Institute recommends that you include the following to describe how you will carry out the four major tasks of the Network Lead and how you intend to allocate the funds across these activities.
In addition, the Institute offers the following recommendations for each required task:

(1) Network Administration and Coordination

- Describe your vision of how the Network Lead will help the CTE Network accomplish its goals.
- Discuss your plans for network meetings, including the major goals and how you will facilitate the exchange of information and ideas, reviews of and feedback on draft instruments and reports, and plans for new activities and collaborations. You might consider including a proposed agenda for the first network meeting in your narrative or Appendix C.
- Discuss your plan to work with the Research Teams and the Institute to identify and prioritize supplementary activities that are carried out jointly by network members. The Institute plans to allocate up to $1 million, in addition to the $5

[15] Specifically, 114(d)(4) of https://www.gpo.gov/fdsys/pkg/BILLS-109s250enr/pdf/BILLS-109s250enr.pdf

million available for the Network Lead award, to support collaborative research and dissemination activities. (Note: you may refer to the guidance established by prior research networks for requesting supplemental funds).

- Discuss some of the major challenges you expect the CTE Network might face. These might include challenges internal to the network (e.g., keeping a group of research teams working on very different aspects of CTE or populations of students on track) or external challenges (e.g., delivering findings of null effects to policymakers and practitioners in a way that helps them move forward). Describe how, as Network Lead, you would work with network members to overcome these challenges.
- Identify the management structure and procedures that will be used to ensure that the Network Lead delivers on its obligations to the network members and the Institute.

(2) Research Activities

a) ***Evaluability Assessment***

- Explain your plans for identifying CTE programs or models you would include in your Evaluability Assessment. If you have already identified any potential programs/models/sites, briefly describe them and justify why you believe they should be eligible for inclusion in your Evaluability Assessment.
- Present a plan to conduct the Evaluability Assessment.
  - Explain your proposed process for selecting programs/models for potential inclusion. Be sure to include secondary and postsecondary CTE.
  - Describe how you will obtain cooperation from program/model to participate in an evaluability assessment.
  - Describe how you will investigate the theory of change underlying the selected models/programs.
  - Describe how you will collect detailed information about program implementation and the control or comparison group environment (e.g., interviews, observations, program documents).
  - Describe your data collection instruments. You may include examples in Appendix D.
  - Describe how you would investigate the service contrast between what the treatment and control group members receive.
  - Describe how you will assess the availability of and access to program and outcome data.
- Explain what factors you will consider to determine whether the programs/models included in your Evaluability Assessment are well-suited or ready for an impact evaluation that meets What Works Clearinghouse standards with or without reservations.
- Discuss how you will present and organize the information from the Evaluability Assessment in your final report a way that will be useful to researchers.
- Provide a timeline for the completion of the Evaluability Assessment.

b) *Synthesis of Research Findings*

- Explain your vision or goals for a research synthesis. The Institute understands that you cannot provide details on the content of the synthesis at this time, but use your current knowledge of the field to identify some likely major topics or major themes.
- Discuss how you will involve the network members and external reviewers in developing this synthesis, especially around integrating the perspectives of diverse disciplines and ensuring that the synthesis is clear, accurate, and complete.
- Identify the various audiences you would try to reach and describe how the synthesis might be adapted to address their main interests.
- Discuss how you will present and organize the information in a way that will be useful to policymakers, practitioners, and researchers. Explain how you will help non-researchers understand the limits of the findings, particularly regarding causal inference and generalization beyond the samples in the studies.
- Provide a timeline for production and completion of the synthesis.

(3) Research Training

- Describe your vision for research training activities that will help encourage new researchers to conduct research on CTE and strengthen the skills of researchers who are already working in this field.
    - Identify the type(s) of training you are prepared to offer as Network Lead and why the training is needed.
    - Explain the individuals or groups that will be targeted for the training, the numbers of each, and how they will be identified or recruited.
    - Explain the content and format of the training (e.g., webinars, workshops, etc.).
    - Discuss the length of the training and whether it will be offered a single time or repeated.
    - Discuss how you will advertise the training.
    - Explain what steps you will take to ensure that trainees include men and women from diverse backgrounds.
    - Discuss how you will assess the outcomes of your training.
- If you plan to offer financial support to research trainees, specify the amount and the conditions.
- Include a timeline for research training activities during the course of the grant.

(4) Leadership and Dissemination

- Explain how you will work with the network members to communicate broadly about the objectives, activities, and findings of the CTE Network.
- Identify the various audiences you intend to reach with your communication activities, and how you will make the results accessible and useful for these audiences (e.g., federal, state, and local policymakers; state and local education agency administrators; school staff; curriculum developers; education researchers).

- Discuss your ideas for using briefings and other forums for various audiences and stakeholders to encourage dialogue and feedback on the network's research objectives, findings, and future activities.
- Discuss the different ways in which you intend to reach these audiences through the major publications, presentations, and products you expect to produce.
    - IES-funded researchers are expected to publish their findings in scientific, peer-reviewed journals and present them at conferences attended by other researchers.
    - IES-funded researchers are also expected to publish and present in venues designed for policymakers and practitioners.
- Describe how you will generate interest and build capacity among researchers to carry out research on CTE.
    - As appropriate, engage in activities with a relevant Regional Educational Laboratory (REL) https://ies.ed.gov/ncee/edlabs/.
- Discuss your vision for the network website. Include your ideas for making the website a "go to" source for CTE research and how you will make it informative and engaging for non-researchers.
    - Describe what kinds of tools or resources you will post to support CTE researchers, both in and out of the Network.
    - Provide a timeline for launching the website, and explain how you will keep it current.
- Describe how you will coordinate with national associations and/or use conferences to share information and exchange ideas with CTE education policymakers, practitioners, and researchers.
- Discuss plans for any conferences the network would plan and host, including purpose, size, and target audience.
- 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.
- The Institute expects the final Evaluability Assessment and Research Synthesis reports to be posted on the CTE Network website and on the Educational Resources Information Center (ERIC, http://eric.ed.gov).

c. Personnel Qualifications

Requirements:
In order to be responsive and sent forward for peer review, your Personnel section **must** include a description of personnel qualifications to lead a CTE Research Network.

Recommendations for a Strong Application:

In order to address the above requirement, the Institute recommends that you include the following in your Personnel section.

- Discuss the PI's professional background in conducting causal research.
- Describe the PI's academic training and professional background.
- Describe the PI's experience and skills in managing a grant of this size.

- Demonstrate that the PI has worked with partners from various disciplines.
- Describe the PI's past experience managing a research network or collaboration, if any. Discuss what this prior network or collaboration intended to do and what it actually accomplished, along with any lessons you drew from this experience.
- Describe the PI's past experience in coordinating activities related to the training or mentoring of early career researchers, including students.
- Identify key personnel who will be working to support you as Network Lead, including any co-PIs. Identify each individual's educational and professional background and expertise and how it relates to the role they will play in the Network's leadership.
- The Institute encourages key personnel who bring interdisciplinary perspectives as well as complementary research and dissemination strengths. These individuals can be housed at the lead institution or at a partner institution(s).
- If you will have an advisory group, discuss what expertise they will bring and how members will be selected. You may propose particular people and describe their backgrounds and expertise to advise the CTE Network.
- Provide information on the percentage of time the PI and other key personnel will devote to the Network Lead role.

d. Resources

Requirements: In order to be responsive and sent forward for peer review, your Resources section **must** include a description of your organizational or institutional resources to carry out the work of the Network Lead.

Recommendations for a Strong Application: The purpose of this section is to describe how you have both the institutional capacity to complete a project of this size and complexity and access to the resources you will need to successfully complete this project. The Institute recommends that you include the following:

- Describe your institutional capacity and experience to function as Network Lead. Be sure to include prior history of managing large grants.
- Describe the facilities and other resources you have available to support your role as Network Lead. These may include specialized libraries or research facilities, extant datasets that may be used to inform the Evaluability Study or other Network projects, videoconferencing facilities to support Network meetings, etc.
- Discuss your editorial, review, and communications capacity to host a Network website and produce, review, and disseminate Network products, including the Evaluability Study, research synthesis, and other tools and papers produced by Network members.

2) Awards

Applications for the CTE Network Lead **must** conform to the following limits on duration and cost:

Duration Maximum:

- **The maximum duration of a Career and Technical Education Network Lead award is 5 years.** An application proposing a project length of greater than 5 years will be deemed nonresponsive to the Request for Applications and will not be accepted for review.

Cost Maximum:

- **The maximum award for the Career and Technical Education Network Lead is $5,000,000 (total cost = direct costs + indirect costs).** An application proposing a budget higher than the maximum award will be deemed nonresponsive to the Request for Applications and will not be accepted for review.
- The Institute will set aside up to **$1,000,000** in addition to the Network Lead award for the Network members to conduct supplementary activities. These funds will be available starting in the second year that the Network is in operation and will be negotiated between the Network Lead and the Institute as the Network develops ideas. Applicants for Network Lead should **not** include a budget for supplementary activities in their current applications.

Maximum Number of Awards:

- The Institute will make no more than **one** award for the Career and Technical Education Network Lead.

PART III: COMPETITION REGULATIONS AND REVIEW CRITERIA

A. FUNDING MECHANISMS AND RESTRICTIONS

1. Mechanism of Support

The Institute intends to award one cooperative agreement pursuant to this Request for Applications.

2. Funding Available

Although the Institute intends to support a CTE Network Lead 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. The Institute makes its awards to the highest quality applications, as determined through scientific peer review, regardless of topic or role. The Institute intends to make no more than one Network Lead award under the CTE Network topic.

Please attend to the duration and budget maximum in Part II. **If you request an award duration longer than the maximum or a budget higher than the maximum, your application will be deemed nonresponsive and will not be reviewed.**

Network Topic	Network Role	Maximum Number of Awards	Maximum Grant Duration	Maximum Grant Award
Career and Technical Education	Network Lead	1	5 years	$5,000,000

3. Cooperative Agreement

Through the terms of the cooperative agreement, the grantee will work with the Institute to plan work related to the Network Lead's activities.

4. Special Considerations for Budget Expenses

Indirect Cost Rate

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

Institutions, both primary grantees and subawardees, not located in the territorial U.S. cannot charge indirect costs.

Meetings and Conferences

When 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 OMB's Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards (Uniform Guidance), 2 CFR, §200.432 Conferences.

In particular, federal grant funds cannot be used to pay for alcoholic beverages or entertainment, which includes costs for amusement, diversion, and social activities. In general, federal funds may not be used to pay for food. A grantee hosting a meeting or conference may not use grant funds to pay for food for conference attendees unless doing so is necessary to accomplish legitimate meeting or conference business. You may request funds to cover expenses for working meetings (e.g., working lunches); however, the Institute 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.

5. 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.

20 U.S.C. 2324(d)(4) et seq., the "Carl D. Perkins Career and Technical Education Act of 2006," Sec. 114(d)(4).

6. Applicable Regulations

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

B. ADDITIONAL AWARD REQUIREMENTS

1. Public Availability of Results

Recipients of awards are expected to publish or otherwise make publicly available the results of the work supported through this program. Institute-funded investigators must submit final manuscripts resulting from research supported in whole or in part by the Institute to the Educational Resources Information Center (ERIC, http://eric.ed.gov) upon acceptance for publication. An author's final manuscript is defined as the final version accepted for journal publication and includes all graphics and supplemental materials that are associated with the article. The Institute will make the manuscript available to the public through ERIC no later than 12 months after the official date of publication. Investigators and their institutions are responsible for ensuring that any publishing or copyright agreements concerning submitted articles fully comply with this requirement.

2. Special Conditions on Grants

The Institute 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.

3. Demonstrating Access to Data and Authentic Education Settings

The research you propose to do will most likely require that you have (or will obtain) access to authentic education settings (e.g., classrooms, schools, districts), secondary data sets, or studies currently under way. In such cases, you will need to provide evidence that you have access to these resources prior to receiving funding. Whenever possible, include letters of agreement in Appendix E from those who have responsibility for or access to the data or settings you wish to incorporate when you submit your application. Even in circumstances where you have included such letters with your application, **the Institute may require additional supporting evidence prior to the release of funds**. If you cannot provide such documentation, the Institute 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 authentic education settings*—If your application is being considered for funding based on scientific merit scores from the peer-review panel and your

research relies on access to authentic education settings (e.g., schools), 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 the Institute 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, the Institute may ask you to provide documentation that the settings originally recruited for the application are still willing to partner in the research.

- *Using secondary data sets*—If your application is being considered for funding based on scientific merit scores from the peer-review panel and your research relies on access to secondary data sets (such as federally collected data sets, 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 data sets in order to receive the grant. This means that if you do not have permission to use the proposed data sets at the time of application, you must provide documentation to the Institute from the entity controlling the data set(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 data set prior to submitting your application, the Institute may ask you to provide updated documentation indicating that you still have permission to use the data set to conduct the proposed research during the project period.

- *Building off of existing studies*—You may propose studies that piggyback onto an ongoing study (i.e., that require access to subjects and data from another study).

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

C. OVERVIEW OF APPLICATION AND PEER REVIEW PROCESS

1. Submitting a Letter of Intent

The Institute strongly encourages potential applicants to submit a Letter of Intent by February 15, 2018. Letters of Intent are optional, non-binding, and not used in the peer review of a subsequent application. When you submit a Letter of Intent, one of the Institute's Program Officers will contact you regarding your proposed research to offer assistance. The Institute also uses the Letter 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. Should you miss the deadline for submitting a Letter of Intent, you still may submit an application. If you miss the Letter of Intent deadline, the Institute asks that you inform the relevant program officer of your intention to submit an application.

Letters of Intent are submitted online at (https://iesreview.ed.gov). **Select the Letter of Intent form for the topic under which you plan to submit your application**. The online submission form contains fields for each of the seven content areas listed below. Use these fields to provide the requested information. The project description should be single-spaced and should not exceed one page (about 3,500 characters).

- Descriptive title
- Network Topic (i.e., Career and Technical Education)
- Network role(s) (i.e., Network Lead)

- Brief description of the objectives of the Network.
- Name, institutional affiliation, address, telephone number and e-mail 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. Application Processing

Applications must be submitted electronically and received by 4:30:00 p.m., Washington, DC time on April 5, 2018 through Grants.gov: https://www.grants.gov/. These application procedures and submission requirements are described in detail in Part IV Preparing Your Application and Part V Submitting Your Application.

After receiving the applications, Institute staff will review each application for compliance and responsiveness to this Request for Applications. Applications that do not address specific requirements of this request will not be considered further.

Once you formally submit an application, Institute staff will not comment on its status until the award decisions are announced (no later than August 16, 2018) except with respect to issues of compliance and responsiveness. This communication will come through the Applicant Notification System (https://iesreview.ed.gov/).

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

3. Peer Review Process

The Institute 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 Institute's website, http://ies.ed.gov/director/sro/peer_review/application_review.asp, by a panel of scientists who have substantive and methodological expertise appropriate to the program of research and Request for Applications.

Each compliant and responsive application is assigned to a scientific review panel. 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, the Institute calculates an average overall score for each application and prepares a preliminary rank order of applications before the full peer-review panel convenes to complete the review of applications.

The full panel will consider and score only those applications deemed to be the most competitive and to have the highest merit, as reflected by the preliminary rank order. A panel member may nominate for consideration by the full panel any application that he or she believes merits full panel review but that would not have been included in the full panel meeting based on its preliminary rank order.

4. Review Criteria for Scientific Merit

The purpose of Institute-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 students. The Institute 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 goal. Information pertinent to each of these criteria is described in Part II Network Requirements.

Network Lead applications

a) Significance

Does the applicant for CTE Network Lead present a clear and compelling vision and rationale for the work that they propose? Does the applicant describe how the Network will contribute to the field?

b) Network Plan

(i) Network Administration and Coordination

Does the applicant offer a clear description of how the Network will accomplish its goals? Does the applicant present a sensible plan for how network meetings will be conducted? Does the applicant describe plans for working with network members to encourage collaboration and generate plans for supplemental activities?

(ii) Research Activities

Does the applicant provide a clear and compelling rationale and plan for research activities, including the Evaluability Assessment and Research Synthesis? Does the applicant have a good strategy to identify programs and models to include in the Evaluability Assessment? Does the applicant take into consideration the factors needed to determine whether a policy or program is suitable for an impact evaluation? Is there a sufficient plan for review of the Synthesis by the network members and the Institute? Is the timeline realistic for the work proposed?

(iii) Research Training

Does the applicant provide a clear and compelling vision for coordinating training activities across the network for students and other early career researchers? Are there plans for the specific training activities? Are there plans to encourage early career participation in cross-team training and overcome any barriers to participation? Is there sufficient participation by the network members? Are the topics and target audiences appropriate?

(iv) Leadership and Dissemination

Does the applicant describe clear plans for communicating the objectives, findings, and activities of the network? Are appropriate target audiences identified? Is there a strong description of the network website? Are there thoughtful plans to conduct briefings with key stakeholders and present at major conferences?

c) Personnel

Does the description of the personnel make it apparent that the Principal Investigator and other key personnel possess appropriate training and experience and will commit sufficient time to fulfill the expectations of Network Lead?

d) Resources

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? Does the applicant have adequate capacity to disseminate results to a range of audiences in ways that are useful to them and reflective of the type of research done?

5. Award Decisions

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

- Scientific merit as determined by 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.
- Availability of funds.

PART IV: PREPARING YOUR APPLICATION

A. OVERVIEW

All applications for Institute funding must be self-contained. As an example, reviewers are under no obligation to view an internet website if you include the site address (URL) in the application. In addition, **you may not submit additional materials directly to the Institute after you submit your application through Grants.gov**.

B. GRANT APPLICATION PACKAGE

The Application Package for this competition (84-305N2018) provides all of the forms that you must complete and submit. The application forms approved for use in the competition specified in this Request for Applications come from the government-wide SF-424 Research and Related (R&R) Form Family (OMB Number 4040-0001).[16]

1. Date Application Package is Available on Grants.gov

The Application Package will be available on http://www.grants.gov/ by February 15, 2018.

2. How to Find the Correct Application Package

To find the Application Package for this competition in Grants.gov, first search by the CFDA number without the alpha suffix (i.e., 84.305) and select the package for this competition: Research Networks Focused on Critical Problems of Practice and Policy CFDA 84.305N. See Part V Submitting Your Application, for a complete description of the forms that make up the application package and directions for filling out these forms.

C. GENERAL FORMATTING

For a complete application, you must submit the following as individual attachments to the R&R forms that are contained in the application package for this competition in Adobe Portable Document Format (PDF):

- Project Summary/Abstract;
- Project Narrative and applicable Appendices (all together as one PDF file);
- Bibliography and References Cited;
- Research on Human Subjects Narrative (i.e., Exempt or Non-Exempt Research Narrative);
- A Biographical Sketch for each senior/key person;
- A Narrative Budget Justification for the total Project budget; and
- Subaward Budget(s) that has (have) been extracted from the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form, if applicable.

Information about the formatting requirements for all of these documents except the Subaward budget attachment (see Part V.F.6) is provided below.

1. Page and Margin Specifications

For all Institute research 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.

[16] According to the Paperwork Reduction Act of 1995, no persons are required to respond to a collection of information unless such collection displays a valid OMB control number. The valid OMB control numbers for this information collection are 4040-0001 and 4040-0010. The time required to complete this information collection is estimated to average 40 hours per response, including the time to review instructions, search existing data resources, gather the data needed, and complete and review the information collection. If you have any comments concerning the accuracy of the time estimate(s) or suggestions for improving this family of forms, please write to: U.S. Department of Education, Washington, D.C. 20202-4537.

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

We recommend that you use single spacing.

4. Type Size (Font Size)

Small type size makes it difficult for reviewers to read the application. To ensure legibility, we recommend the following:

- The height of the letters is not smaller than a type size of 12-point.
- Type density, including characters and spaces, is 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 yields no more than six lines of type within a vertical inch.

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 recommendations. When converting documents into PDF files, you should check that the resulting type size is consistent with the original document.

5. Graphs, Diagrams, and Tables

We recommend that you 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, should be readily legible.

D. PDF ATTACHMENTS

The information you include in these PDF attachments provides the majority of the information on which reviewers will evaluate the application.

1. Project Summary/Abstract

a) Submission

You must submit the project summary/abstract as a separate PDF attachment at Item 7 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Page limitations

We recommend that the Project Summary/Abstract be no more than one page.

c) Content (Network Lead)

The project summary/abstract for Network Lead applications should include the following:

- **Title** of the proposed project
- The **topic** under which the applicant is applying (i.e., “Career and Technical Education”).
- **Significance**: A brief description of the purpose of the CTE network and its significance for improving education outcomes for U.S. students.
- **Network Lead Plan:** A brief summary of each required activity for the Network Lead:

- **Administration and Coordination**: A brief summary of the main administration and coordination activities of the Network Lead.
- **Research Activities**: A brief description of the major research activities of the Network Lead, including intended objectives.
- **Research Training**: A brief summary of the research training activities the Network Lead will organize.
- **Leadership and Dissemination**: A brief summary of the main components of the project's communication strategy.

Please see http://ies.ed.gov/ncer/projects for examples of the content to be included in your project summary/abstract.

2. Project Narrative

a) Submission

You must submit the project narrative as a separate PDF attachment at Item 8 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Page length

We recommend that the Project Narrative be no more than 25 pages. To help reviewers locate information and conduct the highest quality review, write a concise and easy to read narrative, with pages numbered consecutively using the header or footer function to place numbers at the top or bottom right-hand corner.

c) Citing references in text

We recommend you use the author-date style of citation (e.g., James, 2004), such as that described in the Publication Manual of the American Psychological Association, 6th Ed. (American Psychological Association, 2009).

d) Content

The Project Narrative for Network Lead **must** include four sections: (1) Significance; (2) A plan for Network Lead, including administration and coordination, research activities, training activities, and leadership and dissemination; (3) A description of Network Lead personnel qualifications; and (4) A description of organizational resources. Information to be included in each of these sections is detailed in Part II Network Purpose and Requirements. **The information you include in each of these sections will provide the majority of the information on which reviewers will evaluate the application**.

3. Appendix A: Dissemination Plan (Not Applicable for FY 2018 305N)

4. Appendix B: Response to Reviewers (Not Applicable for FY 2018 305N)

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

a) Submission

If you choose to have an Appendix C, you must include it following the project narrative, and submit it as part of the same PDF attachment at Item 8 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Recommended page length

We recommend that Appendix C be no more than 15 pages.

c) Content

You may include figures, charts, tables (e.g., a timeline for your research project, a diagram of the management structure of your project), or measures (e.g., individual items, tests, surveys, observation and interview protocols) used to collect data for your project.

These are the only materials that should be included in Appendix C.

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

a) Submission

If you choose to have an Appendix D, you must include it following Appendix C (if included; if no Appendix C is included, then Appendix D should follow the project narrative), and submit it as part of the same PDF attachment at Item 8 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Recommended page length

We recommend that Appendix D be no more than 10 pages.

c) Content

In Appendix D, if you are proposing to explore, develop, evaluate, or validate an intervention or assessment you may include examples of curriculum materials, computer screen shots, assessment items, or other materials used in the intervention or assessment to be explored, developed, evaluated, or validated.

These are the only materials that should be included in Appendix D.

7. Appendix E: Letters of Agreement (Optional)

a) Submission

If you choose to have an Appendix E, you must include it following the other Appendices included at the end of the project narrative and submit it as part of the same PDF attachment at Item 8 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Recommended page length

We do not recommend a page length for Appendix E.

c) Content

Include in Appendix E the Letters of Agreement from partners (e.g., schools and districts), data sources (e.g., state agencies holding administrative data), and consultants. Ensure that the letters reproduce well so that reviewers can easily read them. Do not reduce the size of the letters. Although, see Part V.D.4 Attaching Files for guidance regarding the size of file attachments. Letters of Agreement should include enough information to make it clear that the author of the letter understands the nature of the commitment of time, space, and resources to the research project that will be required if the application is funded. A common reason for projects to fail is loss of participating schools and districts. Letters of Agreement regarding the provision of data should make it clear that the author of the letter will provide the data described in the application for use in the proposed research and in time to meet the proposed schedule.

These are the only materials that should be included in Appendix E.

8. Appendix F: Data Management Plan (Not applicable for FY 2018 305N)

9. Bibliography and References Cited

a) Submission

You must submit this section as a separate PDF attachment at Item 9 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Recommended page length

We do not recommend a page length for the Bibliography and References cited.

c) Content

You should include complete citations, including the names of all authors (in the same sequence in which they appear in the publication), titles (e.g., article and journal, chapter and book), page numbers, and year of publication for literature cited in the project narrative.

10. Research on Human Subjects Narrative

a) Submission

The human subjects narrative must be submitted as a PDF attachment at Item 12 of the Other Project Information form (see Part V.F.4 Research & Related Other Project Information).

b) Recommended page length

We do not recommend a page length for the Human Subjects Narrative.

c) Content

The human subjects narrative should address the information specified by the U.S. Department of Education's Regulations for the Protection of Human Subjects (see http://www2.ed.gov/about/offices/list/ocfo/humansub.html for additional information).

Exempt Research on Human Subjects Narrative

Provide an "exempt" narrative if you checked "yes" on Item 1 of the Research & Related Other Project Information form (see Part V.F.4 Research & Related Other Project Information). The narrative must contain sufficient information about the involvement of human subjects in the proposed research to allow a determination by the Department that the designated exemption(s) are appropriate. The six categories of research that qualify for exemption from coverage by the regulations are described on the Department's website http://www2.ed.gov/policy/fund/guid/humansub/overview.html.

Non-exempt Research on Human Subjects Narrative

If some or all of the planned research activities are covered (not exempt) from the Human Subjects Regulations and you checked "no" on Item 1 of the Research & Related Other Project Information form (see Part V.F.4 Research & Related Other Project Information), provide a "nonexempt research" narrative. The nonexempt narrative should describe the following: the characteristics of the subject population; the data to be collected from human subjects; recruitment and consent procedures; any potential risks; planned procedures for protecting against or minimizing potential risks; the importance of the knowledge to be gained relative to potential risks; and any other sites where human subjects are involved.

Note that 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/selected 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 after the formal request.

11. Biographical Sketches of Senior/Key Personnel

a) Submission

Each sketch will be submitted as a separate PDF attachment and attached to the Research & Related Senior/Key Person Profile (Expanded) form (see Part V.F.2 Research & Related Senior/Key Person Profile (Expanded)). The Institute encourages you to use the IES Biosketch template available through SciENcv https://www.ncbi.nlm.nih.gov/sciencv/ or you may develop your own biosketch format.

b) Recommended page length

We recommend that each Biographical Sketch be no more than five pages, which includes Current and Pending Support.

c) Content

Provide a Biographical Sketch for the Principal Investigator, each co-Principal Investigator, and other key personnel. Each sketch should include information sufficient to demonstrate that key personnel possess training and expertise commensurate with their specified duties on the proposed project (e.g., publications, grants, and relevant research experience). If you'd like, you may also include biographical sketches for consultants (the form will allow for up to 40 biographical sketches in total). 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 his/her time, expressed as percent effort over a 12-month calendar year, allocated to each project. Include the proposed education research grant as one of the pending grants in this list. If the total 12-month calendar year percent effort across all current and pending projects exceeds 100 percent, you must explain how time will be allocated if all pending applications are successful in the Narrative Budget Justification. 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.

12. Narrative Budget Justification

a) Submission

The Narrative Budget Justification must be submitted as a PDF attachment at Section K of the first project period of the Research & Related Budget (SF 424) Sections A & B; C, D, & E; and F-K form for the Project (see Part V.F.5 Research & Related Budget (Total Federal + Non-Federal) - Sections A & B; C, D, & E; and F-K). For grant submissions with a subaward(s), a separate narrative budget justification for each subaward must be submitted and attached at Section K of the Research & Related Budget (SF 424) for the specific Subaward/Consortium that has been extracted and attached using the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form (see Part V.F.6).

b) Recommended page length

We do not recommend a page length for the Narrative Budget Justification.

c) Content

A Narrative Budget Justification must be submitted for the project budget, and a separate Narrative Budget Justification must be submitted for any subaward budgets included in the application. Each Narrative Budget Justification should provide sufficient detail to allow reviewers to judge whether reasonable costs have been attributed to the project and its subawards, if applicable. The budget justification should correspond to the itemized breakdown of project costs that is provided in the corresponding Research & Related Budget (SF 424) Sections A & B; C, D, & E; and F-K form for each year of the project. The narrative should include the time commitments for key personnel expressed as annual percent effort (i.e., calculated over a 12-month period) and brief descriptions of the responsibilities of key personnel. For consultants, the narrative should include the number of days of

anticipated consultation, the expected rate of compensation, travel, per diem, and other related costs. A justification for equipment purchases, supplies, travel (including information regarding number of days of travel, mode of transportation, per diem rates, number of travelers, etc.), and other related project costs should also be provided in the budget narrative for each project year outlined in the Research & Related Budget (SF 424).

d) Indirect Cost Rate

You must use your institution's federally negotiated indirect cost rate see Part III.A.4 Special Considerations for Budget Expenses). When calculating your indirect costs on expenses for research conducted in field settings, you should apply your institution's federally negotiated off-campus indirect cost rate. If your institution does not have a federally negotiated indirect cost rate, you should consult a member of the Indirect Cost Group (ICG) in the U.S. Department of Education's Office of the Chief Financial Officer http://www2.ed.gov/about/offices/list/ocfo/fipao/icgreps.html to help you estimate the indirect cost rate to put in your application.

PART V: SUBMITTING YOUR APPLICATION

This part of the RFA describes important Grants.gov submission procedures you need to be aware of to ensure your application is received on time (no later than 4:30:00pm Washington, DC time on April 5, 2018) and accepted by the Institute. Any questions that you have about submitting your application through Grants.gov should be addressed to the Grants.gov Contact Center (support@grants.gov or 1-800-518-4726). You can also access the Grants.gov Self-Service Knowledge Base web portal at https://grants-portal.psc.gov/Welcome.aspx?pt=Grants for further guidance and troubleshooting tips.

A. MANDATORY ELECTRONIC SUBMISSION OF APPLICATIONS AND DEADLINE

Applications must be submitted electronically through the Grants.gov web site http://www.grants.gov/ and must be received (fully uploaded and processed by Grants.gov) no later than 4:30:00 pm Washington, DC time on April 5, 2018. Applications received by Grants.gov after the 4:30:00 pm application deadline will be considered late and will not be sent forward for scientific peer review.

Submission through Grants.gov is required unless you qualify for one of the exceptions to the electronic submission requirement *and* submit, no later than 2 weeks before the application deadline date, a written statement to the Institute that you qualify for one of these exceptions. A description of the Allowable Exceptions to Electronic Submissions is provided at the end of this document.

Please consider submitting your application ahead of the deadline date (the Institute recommends 3 to 4 days in advance of the closing date and time) to avoid running the risk of a late submission that will not be reviewed. **The Institute does not accept late applications**.

B. REGISTER ON GRANTS.GOV

To submit an application to the Institute via Grants.gov, your organization must have four things:

- A Data Universal Numbering System (DUNS) Number,
- An active System for Award Management (SAM) registration,
- An active Grants.gov account, and
- A workspace for your application within Grants.gov.

1. Register Early

Grants.gov registration involves many steps including obtaining a DUNS number if you do not already have one. The DUNS number is necessary to complete registration on SAM (www.sam.gov), which itself may take approximately one week to complete. Note: SAM registration can take several weeks to complete, depending upon the completeness and accuracy of the data entered into the SAM database by the applicant organization. During SAM registration the eBIZ POC role for the organization is assigned. The eBIZ POC is the individual within the organization who oversees all activities within Grants.gov and gives permissions to Authorized Organization Representatives (AORs). AORs are allowed to submit grant applications on behalf of their organization. It is the eBIZ POC's responsibility to renew the organization's SAM registration annually.

You may begin working on your application while completing the registration process, but you cannot submit an application until all of the Registration steps are complete. Please note that once your SAM registration is active, it will take 24 to 48 hours for the information to be available in Grants.gov, and before you can submit an application through Grants.gov.

For additional assistance with registering your DUNS number in SAM or updating your existing SAM account, the Department of Education has prepared a SAM.gov Tip Sheet which you can find at: http://www2.ed.gov/fund/grant/apply/sam-faqs.html.

2. Create a Grants.gov Account

If your organization is new to federal grants or Grants.gov, review the Organization Registration page https://www.grants.gov/web/grants/applicants/organization-registration.html. If you already have a Grants.gov account, you do not need to register another account.

1. Click the Register link https://www.grants.gov/web/grants/register.html in the top-right corner of the Grants.gov banner.
2. Click the **Get Registered Now** button on the Register page.
3. Complete the **Contact Information** and **Account Details** sections. All fields with a red asterisk (*) are required.
    - Email Address - When entering an email address, please keep in mind that all correspondence with Grants.gov will be sent to that email address.
4. Select whether to subscribe or unsubscribe from Grants.gov Communications. The **Alerts** are important messages about time-sensitive or major system changes. The **Newsletter** features training, system enhancement updates, and other resources to help the federal grants community.
5. Decide if you would like to add a profile to your Grants.gov account or click the **Continue** button to log in. You need to add a profile https://www.grants.gov/web/grants/applicants/registration/add-profile.html to submit an application.

3. Add a Profile to a Grants.gov Account

A profile in Grants.gov corresponds to a single applicant organization the user represents (i.e., an applicant) or an individual applicant. If you work for or consult with multiple organizations and have a profile for each, you may log in to one Grants.gov account to access all of your grant applications. To add an organizational profile to your Grants.gov account, enter the DUNS Number for the organization in the DUNS field while adding a profile. For more detailed instructions about creating a profile on Grants.gov see https://www.grants.gov/web/grants/applicants/registration/add-profile.html.

- After you register with Grants.gov and create an Organization Applicant Profile, the organization applicant's request for Grants.gov roles and access is sent to the EBiz POC. Each organization has one eBIZ POC that is assigned in SAM. Authorized Organization Representatives (AORs) are allowed to submit grant applications on behalf of their organization. The eBIZ POC will then log into Grants.gov and authorize the appropriate roles, including the AOR. The application can be submitted online by any person assigned the AOR role.
- When applications are submitted through Grants.gov, the name of the organization applicant with the AOR role that submitted the application is inserted into the signature line of the application, serving as the electronic signature. The eBIZ POC **must** authorize people who are able to make legally binding commitments on behalf of the organization as a user with the AOR role; **this step is often missed and it is crucial for valid and timely submissions.**

C. WORKSPACE (NEW)

To submit your application, you must create or use an existing workspace within Grants.gov. Workspace is a shared, online environment where multiple people may simultaneously access and edit different

forms within the application https://www.grants.gov/web/grants/applicants/workspace-overview.html. Creating a workspace for your application allows you to complete it online and route it through your organization for review before submitting. Participants who have assigned roles in the workspace can complete all the required forms online (or by downloading PDF versions and working offline) and check for errors before submission.

The Workspace progress bar will display the state of your application process as you apply. Click the blue question mark icon near the upper-right corner of each page for additional help if needed. Once the application is complete and ready to be submitted, click the Sign and Submit button on the Manage Workspace page, under the Forms tab.

- Adobe Reader: If you do not want to complete the forms online, you can download individual PDF forms in Workspace and complete them offline. The individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader. See the Adobe Software Compatibility page on Grants.gov to download the appropriate version if needed https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html.

For additional training resources on Workspace, including video tutorials, please see https://www.grants.gov/web/grants/applicants/applicant-training.html. The Institute also offers webinars on the application submission process http://ies.ed.gov/funding/webinars/index.asp.

D. SUBMISSION AND SUBMISSION VERIFICATION

1. Submit Early

The Institute strongly recommends that you not wait until the deadline date to submit an application. Grants.gov will put a date/time stamp on the application and then process it after it is fully uploaded. **The time it takes to upload an application will vary depending on a number of factors including the size of the application and the speed of your internet connection.** If Grants.gov rejects your application due to errors in the application package, you will need to resubmit successfully before 4:30:00 p.m. Washington, DC time on the deadline date. As an example, if you begin the submission process at 4:00:00 p.m. Washington, DC time on the deadline date, and Grants.gov rejects the application at 4:15:00 p.m. Washington, DC time, there may not be enough time for you to locate the error that caused the submission to be rejected, correct it, and then attempt to submit the application again before the 4:30:00 p.m. Washington, DC time deadline. **Grants.gov recommends that you begin the submission process 24 to 48 hours before the deadline date and time to ensure a successful, on-time submission.**

Note: To submit successfully, **you must provide the DUNS number on your application that was used when you were registered as an Authorized Organization Representative (AOR) on Grants.gov**. This DUNS number should be the same number used when your organization registered with the SAM. If you do not enter the same DUNS number on your application as the DUNS you registered with, Grants.gov will reject your application.

2. Verify Submission is OK

The Institute urges you to verify that Grants.gov and the Institute have received the application on time and that it was validated successfully. To see the date and time that your application was received by Grants.gov, you need to log on to Grants.gov and click on the "Track My Application" link http://www.grants.gov/web/grants/applicants/track-my-application.html. For a successful submission, the date/time received should be no later than 4:30:00 p.m. Washington DC time on the deadline date, AND the application status should be: (1) Validated (i.e., no errors in submission), (2) Received by Agency (i.e., Grants.gov has transmitted the submission to the U.S. Department of Education), or (3) Agency

Tracking Number Assigned (the U.S. Department of Education has assigned a unique PR/Award Number to the application).

Note: If the date/time received is later than 4:30:00 p.m. Washington, DC time on the deadline date, the application is late. If the application has a status of "Received" it is still awaiting validation by Grants.gov. Once validation is complete, the status will change either to "Validated" or "Rejected with Errors." If the status is "Rejected with Errors," the application has not been received successfully. Grants.gov provides information on reasons why applications may be rejected in its Frequently Asked Questions (FAQ) page.

- Grants.gov FAQ
  http://www.grants.gov/web/grants/support/general-support/faqs.html

- Grants.gov Adobe Reader FAQs
  http://www.grants.gov/web/grants/support/general-support/faqs/adobe-reader-faqs.html

You will receive four emails regarding the status of your submission; the first three will come from Grants.gov and the fourth will come from the U.S. Department of Education. Within 2 days of submitting a grant application to Grants.gov, you will receive three emails from Grants.gov:

- The first email message will confirm receipt of the application by the Grants.gov system and will provide you with an application tracking number beginning with the word "GRANT", for example GRANT00234567. You can use this number to track your application on Grants.gov using the "Track My Application" link http://www.grants.gov/web/grants/applicants/track-my-application.html before it is transmitted to the U.S. Department of Education.

- The second email message will indicate that the application EITHER has been successfully validated by the Grants.gov system prior to transmission to the U.S. Department of Education OR has been rejected due to errors, in which case it will not be transmitted to the Department.

- The third email message will indicate that the U.S. Department of Education has confirmed retrieval of the application from Grants.gov once it has been validated.

If the second email message indicates that the application, as identified by its unique application tracking number, is valid and the time of receipt was no later than 4:30:00 p.m. Washington DC time, then the application is successful and on-time.

Note: You should not rely solely on e-mail to confirm whether an application has been received on time and validated successfully. The Institute urges you to use the "Track My Application" link on Grants.gov to verify on-time, valid submissions in addition to the confirmation emails.
http://www.grants.gov/web/grants/applicants/track-my-application.html

Once Grants.gov validates the application and transmits it to the U.S. Department of Education, you will receive an email from the U.S. Department of Education.

- This fourth email message will indicate that the application has been assigned a PR/Award number unique to the application beginning with the letter R, followed by the section of the CFDA number unique to that research competition (e.g., 305N), the fiscal year for the submission (e.g., 18 for fiscal year 2018), and finally four digits unique to the application, for example R305N18XXXX. If the application was received after the closing date/time, this email will also indicate that the application is late and will not be given further consideration.

Note: The Institute strongly recommends that you begin the submission process at least 3 to 4 days in advance of the deadline date to allow for a successful and timely submission.

3. Late Applications

If your application is submitted after 4:30:00 p.m. Washington, DC time on the application deadline date your application will not be accepted and will not be reviewed. **The Institute does not accept late applications.**

Late applications are often the result of one or more common submission problems that could not be resolved because there was not enough time to do so before the application deadline. Some of the reasons Grants.gov may reject an application can be found on the Grants.gov site http://www.grants.gov/web/grants/applicants/encountering-error-messages.html. For more detailed information on troubleshooting Adobe errors, you can review the Adobe Reader Software Tip Sheet at http://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html.

If after consulting these resources you still experience problems, contact Grants.gov Customer Support (1-800-518-4726 or support@grants.gov) or access the Grants.gov Self-Service Knowledge Base web portal https://grants-portal.psc.gov/Welcome.aspx?pt=Grants.

If the Grants.gov Support Desk determines that a technical problem occurred with the Grants.gov system, and determines that the problem affected your ability to submit the application by the submission deadline, you may petition the Institute to review your application (email the relevant program officer with the Grants.gov case number and related information). However, if Grants.gov determines that the problem you experienced is one of those identified by Grants.gov as common application errors, do not petition the Institute to have your case reviewed because these common submission problems are not grounds for petition. **The Institute will not accept an application that was late due to failure to follow the submission guidelines provided by Grants.gov and summarized in this RFA**.

E. TIPS FOR WORKING WITH GRANTS.GOV

Please go to http://www.grants.gov/web/grants/support.html for help with Grants.gov. For additional tips related to submitting grant applications, refer to the Grants.gov Applicant FAQs http://www.grants.gov/web/grants/applicants/applicant-faqs.html as well as additional information on Workspace at https://www.grants.gov/web/grants/applicants/applicant-faqs.html#workspace.

1. Dial-up Internet Connections

When using a dial up connection to upload and submit your application, it can take significantly longer than when you are connected to the Internet with a high-speed connection, e.g. cable modem/DSL/T1. While times will vary depending upon the size of your application, it can take a few minutes to a few hours to complete your grant submission using a dial up connection.

2. Browser Support

The latest versions of Microsoft Internet Explorer (IE), Mozilla Firefox, Google Chrome, and Apple Safari are supported for use with Grants.gov. However, these web browsers undergo frequent changes and updates, so we recommend you have the latest version when using Grants.gov. Legacy versions of these web browsers may be functional, but you may experience issues.

For additional information or updates, please see the Grants.gov Browser information in the Applicant FAQs http://www.grants.gov/web/grants/applicants/applicant-faqs.html#browser

3. Software Requirements

Grants.gov recommends using Adobe Acrobat Reader for Windows or MAC OS. Grants.gov has an Adobe Software Compatibility page https://www.grants.gov/web/grants/applicants/adobe-software-compatibility.html where you can download the appropriate version of Adobe if needed.

4. Attaching Files

You must attach **read-only, flattened .PDF files** to the forms in the application package (see Part IV.D PDF Attachments).

- PDF files are the only approved file type accepted by the Department of Education as detailed in the Federal Register application notice. Applicants must submit individual .PDF files only when attaching files to their application. Specifically, the Department will not accept any attachments that contain files within a file, such as PDF Portfolio files, or an interactive or fillable .PDF file. Any attachments uploaded that are not .PDF files or are password protected files will not be read.
- Grants.gov cannot process an application that includes two or more files that have the same name within a grant submission. Therefore, each file uploaded to your application package should have a unique file name.
- When attaching files, applicants should follow the guidelines established by Grants.gov on the size and content of file names. Uploaded file names must be fewer than 50 characters, and, in general, applicants should not use any special characters. However, Grants.gov does allow for the following UTF-8 characters when naming your attachments: A-Z, a-z, 0-9, underscore, hyphen, space, period, parenthesis, curly braces, square brackets, ampersand, tilde, exclamation point, comma, semi colon, apostrophe, at sign, number sign, dollar sign, percent sign, plus sign, and equal sign. Applications submitted that do not comply with the Grants.gov guidelines will be rejected at Grants.gov and not forwarded to the Department.
- Applicants should limit the size of their file attachments. Documents submitted that contain graphics and/or scanned material often greatly increase the size of the file attachments and can result in difficulties opening the files. For reference, the average discretionary grant application package with all attachments is less than 5 MB. Therefore, you may want to check the total size of your package before submission.

F. REQUIRED RESEARCH & RELATED (R&R) FORMS AND OTHER FORMS

You must complete and submit the R&R forms described below. In Workspace, you can complete these forms online or the individual PDF forms can be downloaded and saved to your local device storage, network drive(s), or external drives, then accessed through Adobe Reader.

1. Application for Federal Assistance SF 424 (R&R)

This form asks for general information about the applicant, including but not limited to the following: contact information; an Employer Identification Number (EIN); a DUNS number; a descriptive title for the project; an indication of the project topic and the appropriate goal; Principal Investigator contact information; start and end dates for the project; Congressional District; total estimated project funding; and Authorized Representative contact information.

Because information on this form populates selected fields on some of the other forms described below, you should complete this form first. This form also allows you to attach a cover letter; however, the Institute does not require a cover letter so do not attach one here.

Provide the requested information using the drop down menus when available. Guidance for completing selected items follows.

Note: Although not required fields, Items 4a (Federal Identifier) and b (Agency Routing Number) on the Application for Federal Assistance SF 424 (R&R) form provide critical information to the Institute and should be filled out for an application to this research grant competition.

- Item 1

  Type of Submission. Select either "Application" or “Changed/Corrected Application.” “Changed/Corrected Application” should only be selected in the event that you need to submit an updated version of an already submitted application (e.g., due to an error). The Institute does not require Pre-applications for its grant competitions.

- Item 2

  Date Submitted. Enter the date the application is submitted to the Institute.

  Applicant Identifier. Leave this blank.

- Item 3

  Date Received by State and State Application Identifier. Leave these items blank.

- Item 4

  Note: This item provides important information that is used by the Institute to screen applications for responsiveness to the competition requirements and for assignment to the appropriate scientific peer review panel. **It is critical that you complete this information completely and accurately or the application may be rejected as nonresponsive or assigned inaccurately for scientific review of merit**.

  - Item 4a: Federal Identifier. **Not applicable for FY18.**

  - Item 4b: Agency Routing Number. **Enter the code for the topic and role the application addresses in this field.** Applications to the Research Networks Focused on Critical Problems of Policy and Practice Program (CFDA 84.305N) program must be submitted to a topic and role.

Topic	Code
Career and Technical Education – Network Lead	NCER-CTEL

It is critical that you use the appropriate code in this field and that the code shown in this field agrees with the information included in the application abstract. Indicating the correct code facilitates the appropriate processing and review of the application. Failure to do so may result in delays to processing and puts your application at risk for being identified as nonresponsive and not considered for further review.

  - Item 4c: Previous Grants.gov Tracking ID. If you are submitting a “Changed/Corrected” application (see Item 1) to correct an error, enter the Grants.gov Tracking Number associated with the application that was already submitted through Grants.gov. Note: If you need to correct an error and submit a “Changed/Corrected” application, contact the Program Officer listed on the application package and provide the Grants.gov tracking numbers associated with both applications (the one with the error and the one that has been corrected) and identify which one should be reviewed by the Institute.

- Item 5

Applicant Information. Enter all of the information requested, including the legal name of the applicant, the name of the primary organizational unit (e.g., school, department, division, etc.) that will undertake the activity, and the address, including the county and the 9-digit ZIP/Postal Code of the primary performance site (i.e., the Applicant institution) location. This field is required if the Project Performance Site is located in the United States. The field for "Country" is pre-populated with "USA: UNITED STATES." For applicants located in another country, contact the cognizant program officer (see Part II.B Requirements for the CTE Network Lead) before submitting the application. Use the drop down menus where they are provided.

Organizational DUNS. Enter the DUNS or DUNS+4 number of the applicant organization. A **Data Universal Numbering System (DUNS)** number is a unique 9-character identification number provided by the commercial company Dun & Bradstreet (D&B) to identify organizations. If your institution does not have a DUNS number and therefore needs to register for one, a DUNS number can be obtained through the Dun & Bradstreet website http://fedgov.dnb.com/webform/displayHomePage.do.

Note: The DUNS number provided on this form must be the same DUNS number used to register on Grants.gov (and the same as the DUNS number used when registering with the SAM). **If the DUNS number used in the application is not the same as the DUNS number used to register with Grants.gov, the application will be rejected with errors by Grants.gov**.

Person to Be Contacted on Matters Involving this Application. Enter all of the information requested, including the name, telephone and fax numbers, and email address of the person to be contacted on matters involving this application. The role of this person is primarily for communication purposes on the budgetary aspects of the project. As an example, this may be the contact person from the applicant institution's office of sponsored projects. Use the drop down menus where they are provided.

- Item 6

  Employer Identification (EIN) or (TIN). Enter either the Employer Identification Number (EIN) or Tax Identification Number (TIN) as assigned by the Internal Revenue Service. If the applicant organization is not located in the United States, enter 44-4444444.

- Item 7

  Type of Applicant. Use the drop down menu to select the type of applicant. If Other, please specify.

  Small Business Organization Type. If "Small Business" is selected as Type of Applicant, indicate whether or not the applicant is a "Women Owned" small business – a small business that is at least 51% owned by a woman or women, who also control and operate it. Also indicate whether or not the applicant is a "Socially and Economically Disadvantaged" small business, as determined by the U.S. Small Business Administration pursuant to section 8(a) of the Small Business Act U.S.C. 637(a).

- Item 8

  Type of Application. Select “New.”

  Submission to Other Agencies. Indicate whether or not this application is being submitted to another agency or agencies. If yes, indicate the name of the agency or agencies.

- Item 9

  Name of Federal Agency. Do not complete this item. The name of the federal agency to which the application is being submitted will already be entered on the form.

- Item 10

  Catalog of Federal Domestic Assistance Number. Do not complete this item. The CFDA number of the program competition to which the application is being submitted will already be entered on the form. The CFDA number can be found in the Federal Register Notice and on the face page of the Request for Applications.

- Item 11

  Descriptive Title of Applicant’s Project. **Enter a distinctive, descriptive title for the Project**. The maximum number of characters allowed in this item field is 200.

- Item 12

  Proposed Project Start Date and Ending Date. Enter the proposed start date of the project and the proposed end date of the project. The start date must not be earlier than September 3, 2018, which is the Earliest Anticipated Start Date listed in this Request for Applications, and must not be later than September 14, 2018.

- Item 13

  Congressional District of Applicant. For both the applicant and the project, enter the Congressional District in this format: 2-character State Abbreviation and 3-character District Number (e.g., CA-005 for California's 5th district, CA-012 for California's 12th district). Grants.gov provides help for finding this information http://www.grants.gov/web/grants/applicants/applicant-faqs/applying-for-grants.html under “How can I find my congressional district code?” If the program/project is outside the U.S., enter 00-000.

- Item 14

  Project Director/Principal Investigator Contact Information. Enter all of the information requested for the Project Director/Principal Investigator, including position/title, name, address (including county), organizational affiliation (e.g., organization, department, division, etc.), telephone and fax numbers, and email address. Use the drop down menus where they are provided.

- Item 15

  Estimated Project Funding

- Total Federal Funds Requested. Enter the total Federal funds requested for the entire project period.

- Total Non-federal Funds. Enter the total Non-federal funds requested for the entire project period.

- Total Federal & Non-Federal Funds. Enter the total estimated funds for the entire project period, including both Federal and non-Federal funds.

- Estimated Program Income. Identify any program income estimated for the project period, if applicable.

- Item 16

  Is Application Subject to Review by State Executive Order 12372 Process? The Institute is not soliciting applications that are subject to review by Executive Order 12372; therefore, check the box "Program is not covered by E.O. 12372" to indicate "No" for this item.

- Item 17

  This is the Authorized Organization Representative's electronic signature.

  By providing the electronic signature, the Authorized Organization Representative certifies the following:

  - To the statements contained in the list of certifications
  - That the statements are true, complete and accurate to the best of his/her knowledge.

  By providing the electronic signature, the Authorized Organization Representative also provides the required assurances, agrees to comply with any resulting terms if an award is accepted, and acknowledges that any false, fictitious, or fraudulent statements or claims may subject him/her to criminal, civil, or administrative penalties.

  Note: The certifications and assurances referred to here are described in Part V.E.7 Other Forms Included in the Application Package).

- Item 18

  SF LLL or other Explanatory Documentation. Do not add the SF LLL here. A copy of the SF LLL is provided as an optional document within the application package. See Part V.E.7 Other Forms Included in the Application Package to determine applicability. If it is applicable to the grant submission, choose the SF LLL from the optional document menu, complete it, and save the completed SF LLL form as part of the application package.

- Item 19

  Authorized Representative. The Authorized Representative is the official who has the authority both to legally commit the applicant to (1) accept federal funding and (2) execute the proposed project. Enter all information requested for the Authorized Representative, including name, title, organizational affiliation (e.g., organization, department, division, etc.), address, telephone and fax numbers, and email address of the Authorized Representative. Use the drop down menus where they are provided.

Signature of Authorized Representative. Leave this item blank as it is automatically completed when the application is submitted through Grants.gov.

Date Signed. Leave this item blank as the date is automatically generated when the application is submitted through Grants.gov.

- Item 20

  Pre-application. Do not complete this item as the Institute does not require pre-applications for its grant competitions.

- Item 21

  Cover letter. Do not complete this item as the Institute does not require cover letters for its grant competitions.

2. Research & Related Senior/Key Person Profile (Expanded)

This form asks you to: (1) identify the Project Director/Principal Investigator and other senior and/or key persons involved in the project; (2) specify the role key staff will serve; and (3) provide contact information for each senior/key person identified. The form also requests information about the highest academic or professional degree or other credentials earned and the degree year. This form includes a "Credential/Agency Log In" box that is optional.

This form also provides the means for attaching the Biographical Sketches of senior/key personnel as PDF files. This form will allow for the attachment of a total of 40 biographical sketches: one for the project director/principal investigator and up to 39 additional sketches for senior/key staff. See Part IV.D.11 Biographical Sketches of Senior/Key Personnel for information about page limitations, format requirements, and content to be included in the biographical sketches. The persons listed on this form should be the same persons listed in the Personnel section of the Project Narrative. If consultants are listed there, you may include a biographical sketch for each one listed. As a reminder, the Institute strongly encourages the use of SciENcv to create IES Biosketches for grant applications to the Institute.

3. Project/Performance Site Location(s)

This form asks you to identify the primary site where project work will be performed. You must complete the information for the primary site. If a portion of the project will be performed at any other site(s), the form also asks you to identify and provide information about the additional site(s). As an example, a research proposal to an Institute competition may include the applicant institution as the primary site and one or more schools where data collection will take place as additional sites. The form permits the identification of eight project/performance site locations in total. This form requires the applicant to identify the Congressional District for each site. See above, Application for Federal Assistance SF 424 (R&R), Item 13 for information about Congressional Districts. DUNS number information is optional on this form.

4. Research & Related Other Project Information

This form asks you to provide information about any research that will be conducted involving Human Subjects, including: (a) whether human subjects are involved; (b) if human subjects are involved, whether or not the project is exempt from the human subjects regulations; (c) if the project is exempt from the regulations, an indication of the exemption number(s); and, (d) if the project is not exempt from the regulations, whether an Institutional Review Board (IRB) review is pending; and if IRB approval has been given, the date on which the project was approved; and, the Human Subject Assurance

number. This form also asks you: (a) whether there is proprietary information included in the application; (b) whether the project has an actual or potential impact on the environment; (c) whether the research site is designated or eligible to be designated as an historic place; and, (d) if the project involves activities outside the U.S., to identify the countries involved.

This form also provides the means for attaching a number of PDF files (see Part IV.D PDF Attachments for information about page limitations, format requirements, and content) including the following:

- Project Summary/Abstract,
- Project Narrative and Appendices,
- Bibliography and References Cited, and
- Research on Human Subjects Narrative.

- Item 1

  Are Human Subjects Involved? If activities involving human subjects are planned at any time during the proposed project at any performance site or collaborating institution, you must check "Yes." (You must check "Yes" even if the proposed project is exempt from Regulations for the Protection of Human Subjects.) If there are no activities involving human subjects planned at any time during the proposed project at any performance site or collaborating institution, you may check "No" and skip to Item 2.

  Is the Project Exempt from Federal Regulations? If all human subject activities are exempt from Human Subjects regulations, then you may check "Yes." You are required to answer this question if you answered "yes" to the first question "Are Human Subjects Involved?"

  If you answer "yes" to the question "Is the Project Exempt from Federal Regulations?" you are required to check the appropriate exemption number box or boxes corresponding to one or more of the exemption categories. The six categories of research that qualify for exemption from coverage by the regulations are described on the U.S. Department of Education's website http://www2.ed.gov/policy/fund/guid/humansub/overview.html. Provide an Exempt Research on Human Subjects Narrative at Item 12 of this form (see

  If you answer "no" to the question "Is the Project Exempt from Federal Regulations?" you will be prompted to answer questions about the Institutional Review Board (IRB) review.

  If no, is the IRB review pending? Answer either "Yes" or "No."

  If you answer "yes" because the review is pending, then leave the IRB approval date blank. If you answer "no" because the review is not pending, then you are required to enter the latest IRB approval date, if available. Therefore, you should select "No" only if a date is available for IRB approval.

  Note: IRB Approval may not be pending because you have not begun the IRB process. In this case, an IRB Approval Date will not be available. However, a date must be entered in this field if "No" is selected or the application will be rejected with errors by Grants.gov. Therefore, you should check "Yes" to the question "Is the IRB review pending?" if an IRB Approval date is not available.

  If you answer "no" to the question "Is the Project Exempt from Federal Regulations?" provide a Non-exempt Research on Human Subjects Narrative at Item 12 of this form (see Part IV.D.10 Research on Human Subjects Narrative).

Human Subject Assurance Number: Leave this item blank.

- Item 2

  Are Vertebrate Animals used? Check whether or not vertebrate animals will be used in this project.

- Item 3

  Is proprietary/privileged information included in the application? Patentable ideas, trade secrets, privileged or confidential commercial or financial information, disclosure of which may harm the applicant, should be included in applications only when such information is necessary to convey an understanding of the proposed project. If the application includes such information, check "Yes" and clearly mark each line or paragraph on the pages containing the proprietary/privileged information with a legend similar to, "The following contains proprietary/privileged information that (name of applicant) requests not be released to persons outside the Government, except for purposes of review and evaluation."

- Item 4

  Does this project have an actual or potential impact on the environment? Check whether or not this project will have an actual or potential impact on the environment.

- Item 5

  Is the research site designated or eligible to be designated as a historic place? Check whether or not the research site is designated or eligible to be designated as a historic place. Explain if necessary.

- Item 6

  Does the project involve activities outside of the United States or partnerships with international collaborators? Check "Yes" or "No." If the answer is "Yes," then you need to identify the countries with which international cooperative activities are involved. An explanation of these international activities or partnerships is optional.

- Item 7.

  Project Summary/Abstract. Attach the Project Summary/Abstract as a PDF file here. See Part IV.D PDF Attachments for information about content, formatting, and page limitations for this PDF file.

- Item 8.

  Project Narrative. Create a single PDF file that contains the Project Narrative as well as applicable appendices. Attach that single PDF file here. See Part IV.D PDF Attachments for information about content, formatting, and page limitations for this PDF file.

- Item 9.

  Bibliography and References Cited. Attach the Bibliography and References Cited as a PDF file here. See Part IV.D PDF Attachments for information about content, formatting, and page limitations for this PDF file.

- Item 10.

  Facilities and Other Resources. The Institute does not want an attachment here. Explanatory information about facilities and other resources must be included in the Resources section of the 25-page Project Narrative (or 10-page project narrative for Network Lead applications) for the application and may also be included in the Narrative Budget Justification. In the project narrative of competitive proposals, applicants describe having access to institutional resources that adequately support research activities and access to schools in which to conduct the research. Strong applications document the availability and cooperation of the schools or other education delivery settings that will be required to carry out the research proposed in the application via a letter of agreement from the education organization. Include letters of agreement in Appendix E.

- Item 11.

  Equipment. The Institute does not want an attachment here. Explanatory information about equipment may be included in the Narrative Budget Justification.

- Item 12.

  Other Attachments. Attach a Research on Human Subjects Narrative as a PDF file here. You must attach either an Exempt Research on Human Subjects Narrative or a Non-Exempt Research on Human Subjects Narrative. See Part IV.D PDF Attachments for information about content, formatting, and page limitations for this PDF file.

  If you checked "Yes" to Item 1 of this form "Are Human Subjects Involved?" and designated an exemption number(s), then you must provide an "Exempt Research" narrative. If some or all of the planned research activities are covered by (not exempt from) the Human Subjects Regulations, then you must provide a "Nonexempt Research" narrative.

5. Research & Related Budget (Total Federal+Non-Federal)-Sections A & B; C, D, & E; F-K

This form asks you to provide detailed budget information for each year of support requested for the applicant institution (i.e., the Project Budget). The form also asks you to indicate any non-federal funds supporting the project. You should provide this budget information for each project year using all sections of the R&R Budget form. Note that the budget form has multiple sections for each budget year: A & B; C, D, & E; and F-K.

- Sections A & B ask for information about Senior/Key Persons and Other Personnel
- Sections C, D & E ask for information about Equipment, Travel, and Participant/Trainee Costs
- Sections F - K ask for information about Other Direct Costs and Indirect Costs

You must complete each of these sections for as many budget periods (i.e., project years) as you are requesting funds.

Note: The narrative budget justification for each of the project budget years must be attached at Section K of the first budget period; otherwise you will not be able to enter budget information for subsequent project years.

Note: Budget information for a subaward(s) on the project must be entered using a separate form, the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form, described in Part V.D.6. This is the only form that can be used to extract the proper file format to complete subaward budget information. **The application will be rejected with errors by Grants.gov if subaward budget information is included using any other form or file format.**

Enter the Federal Funds requested for all budget line items as instructed below. If any Non-Federal funds will be contributed to the project, enter the amount of those funds for the relevant budget categories in the spaces provided.

All fields asking for total funds in this form will auto calculate.

- Organizational DUNS.

  If you completed the SF 424 R&R Application for Federal Assistance form first the DUNS number will be pre-populated here. Otherwise, the organizational DUNS number must be entered here. See Part V.F.1 for information on the DUNS number.

- Budget Type.

  Check the box labeled "Project" to indicate that this is the budget requested for the primary applicant organization. If the project involves a subaward(s), you must access the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form to complete a subaward budget (see Part V.F.6 for instructions regarding budgets for a subaward).

- Budget Period Information.

  Enter the start date and the end date for each budget period. Note: If you activate an extra budget period and leave it blank this may cause your application to be rejected with errors by Grants.gov.

- Budget Sections A & B

  A. Senior/Key Person. The project director/principal investigator information will be pre-populated here from the SF 424 R&R Application for Federal Assistance form if it was completed first. Then, enter all of the information requested for each of the remaining senior/key personnel, including the project role of each and the number of months each will devote to the project, i.e., calendar or academic + summer. You may enter the annual compensation (base salary – dollars) paid by the employer for each senior/key person; however, you may choose to leave this field blank. Regardless of the number of months devoted to the project, indicate only the amount of salary being requested for each budget period for each senior/key person. Enter applicable fringe benefits, if any, for each senior/key person. Enter the Federal dollars and, if applicable, the Non-Federal dollars.

  B. Other Personnel. Enter all of the information requested for each project role listed – for example Postdoctoral Associates, Graduate Students, Undergraduate Students, Secretary/Clerical, etc. – including, for each project role, the number of personnel proposed and the number of months devoted to the project (calendar or academic + summer). Regardless of the number of months devoted to the project, indicate only the amount of salary/wages being requested for

each project role. Enter applicable fringe benefits, if any, for each project role category. Enter the Federal dollars and, if applicable, the Non-Federal dollars.

Total Salary, Wages, and Fringe Benefits (A + B). This total will auto calculate.

- Budget Sections C, D & E

  C. Equipment Description. Enter all of the information requested for Equipment. Equipment is defined as an item of property that has an acquisition cost of $5,000 or more (unless the applicant organization has established lower levels) and an expected service life of more than 1 year. List each item of equipment separately and justify each in the narrative budget justification. Allowable items ordinarily will be limited to research equipment and apparatus not already available for the conduct of the work. General-purpose equipment, such as a personal computer, is not eligible for support unless primarily or exclusively used in the actual conduct of scientific research. Enter the Federal dollars and, if applicable, the Non-Federal dollars.

  Total C. Equipment. This total will auto calculate.

  D. Travel. Enter all of the information requested for Travel.

  Enter the total funds requested for domestic travel. In the narrative budget justification, include the purpose, destination, dates of travel (if known), applicable per diem rates, and number of individuals for each trip. If the dates of travel are not known, specify the estimated length of the trip (e.g., 3 days). Enter the Federal dollars and, if applicable, the Non-Federal dollars.

  Enter the total funds requested for foreign travel. In the narrative budget justification, include the purpose, destination, dates of travel (if known), applicable per diem rates, and number of individuals for each trip. If the dates of travel are not known, specify the estimated length of the trip (e.g., 3 days). Enter the Federal dollars and, if applicable, the Non-Federal dollars.

  Total D. Travel Costs. This total will auto calculate.

  E. Participant/Trainee Support Costs. Do not enter information here; this category is not used for project budgets for this competition.

  Number of Participants/Trainees. Do not enter information here; this category is not used for project budgets for this competition.

  Total E. Participants/Trainee Support Costs. Do not enter information here; this category is not used for project budgets for this competition.

- Budget Sections F-K

  F. Other Direct Costs. Enter all of the information requested under the various cost categories. Enter the Federal dollars and, if applicable, the Non-Federal dollars.

  Materials and Supplies. Enter the total funds requested for materials and supplies. In the narrative budget justification, indicate the general categories of supplies, including an amount for each category. Categories less than $1,000 are not required to be itemized.

  Publication Costs. Enter the total publication funds requested. The proposed budget may request funds for the costs of documenting, preparing, publishing or otherwise making available to others

the findings and products of the work conducted under the award. In the narrative budget justification, include supporting information.

Consultant Services. Enter the total costs for all consultant services. In the narrative budget justification, identify each consultant, the services he/she will perform, total number of days, travel costs, and total estimated costs. Note: Travel costs for consultants can be included here or in Section D. Travel.

ADP/Computer Services. Enter the total funds requested for ADP/computer services. The cost of computer services, including computer-based retrieval of scientific, technical, and education information may be requested. In the narrative budget justification, include the established computer service rates at the proposing organization if applicable.

Subaward/Consortium/Contractual Costs. Enter the total funds requested for (1) all subaward/consortium organization(s) proposed for the project and (2) any other contractual costs proposed for the project. Use the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form to provide detailed subaward information (see Part V.F.6).

Equipment or Facility Rental/User Fees. Enter the total funds requested for equipment or facility rental/user fees. In the narrative budget justification, identify each rental user fee and justify.

Alterations and Renovations. Leave this field blank. The Institute does not provide funds for construction costs.

Other. Describe any other direct costs in the space provided and enter the total funds requested for this "Other" category of direct costs. Use the narrative budget justification to further itemize and justify.

Total F. Other Direct Costs. This total will auto calculate.

- G. Direct Costs

  Total Direct Costs (A thru F). This total will auto calculate.

- H. Indirect Costs

  Enter all of the information requested for Indirect Costs. Principal investigators should note that if they are requesting reimbursement for indirect costs, this information is to be completed by their Business Office.

  Indirect Cost Type. Indicate the type of base (e.g., Salary & Wages, Modified Total Direct Costs, Other [explain]). In addition, indicate if the Indirect Cost type is Off-site. If more than one rate/base is involved, use separate lines for each. When calculating your expenses for research conducted in field settings, you should apply your institution's negotiated off-campus indirect cost rate, as directed by the terms of your institution's negotiated agreement with the federal government.

  Institutions, both primary grantees and sub-awardees, not located in the territorial US cannot charge indirect costs.

  If you do not have a current indirect rate(s) approved by a Federal agency, indicate "None--will negotiate". **If your institution does not have a federally negotiated indirect cost rate,** you should consult a member of the Indirect Cost Group (ICG) in the U.S. Department of

Education's Office of the Chief Financial Officer http://www2.ed.gov/about/offices/list/ocfo/fipao/icgreps.html to help you estimate the indirect cost rate to put in your application.

Indirect Cost Rate (%). Indicate the most recent Indirect Cost rate(s) (also known as Facilities & Administrative Costs [F&A]) established with the cognizant Federal office, or in the case of for-profit organizations, the rate(s) established with the appropriate agency.

If your institution has a cognizant/oversight agency and your application is selected for an award, you must submit the indirect cost rate proposal to that cognizant/oversight agency office for approval.

Indirect Cost Base ($). Enter the amount of the base (dollars) for each indirect cost type. Depending on the grant program to which you are applying and/or the applicant institution's approved Indirect Cost Rate Agreement, some direct cost budget categories in the grant application budget may not be included in the base and multiplied by the indirect cost rate. Use the narrative budget justification to explain which costs are included and which costs are excluded from the base to which the indirect cost rate is applied. If your grant application is selected for an award, the Institute will request a copy of the applicant institution's approved Indirect Cost Rate Agreement.

Indirect Cost Funds Requested. Enter the funds requested (Federal dollars and, if applicable, the Non-Federal dollars) for each indirect cost type.

Total H. Indirect Costs. This total will auto calculate.

Cognizant Agency. Enter the name of the Federal agency responsible for approving the indirect cost rate(s) for the applicant. Enter the name and telephone number of the individual responsible for negotiating the indirect cost rate. If a Cognizant Agency is not known, enter “None.”

- I. Total Direct and Indirect Costs

  Total Direct and Indirect Costs (G + H). This total will auto calculate.

- J. Fee.

  Do not enter a dollar amount here as you are not allowed to charge a fee on a grant or cooperative agreement.

- K. Budget Justification

  Attach the Narrative Budget Justification as a PDF file at Section K of the first budget period (see Part IV.D.12 for information about content, formatting, and page limitations for this PDF file). Note that if the justification is not attached at Section K of the first budget period, you will not be able to access the form for the second budget period and all subsequent budget periods. The single narrative must provide a budget justification for each year of the entire project.

- Cumulative Budget. This section will auto calculate all cost categories for all budget periods included.

Final Note: The overall grant budget cannot exceed the maximum grant award for the topic being applied under as listed in the table below. Applications with budgets and durations greater than the maximums listed will not be forwarded for review.

Network Topic	Network Role	Maximum Number of Awards	Maximum Grant Duration	Maximum Grant Award
Career and Technical Education	Network Lead	1	5 Years	$5,000,000

6. R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form

This form provides the means to both extract and attach the Research & Related Budget (Total Fed + Non-Fed) form that is to be used by an institution that will hold a subaward on the grant. Please note that separate budgets are required only for subawardee/consortium organizations that perform a substantive portion of the project. As with the Primary Budget, the extracted Research & Related Budget (Total Fed + Non-Fed) form asks you to provide detailed budget information for each year of support requested for a subaward/consortium member with substantive involvement in the project. The budget form also asks for information regarding non-federal funds supporting the project at the subaward/consortium member level. You should provide this budget information for each project year using all sections of the R&R Budget form. Note that the budget form has multiple sections for each budget year: A & B; C, D, & E; and F-K.

- Sections A & B ask for information about Senior/Key Persons and Other Personnel.
- Sections C, D & E ask for information about Equipment, Travel, and Participant/Trainee Costs.
- Sections F - K ask for information about Other Direct Costs and Indirect Costs.

"Subaward/Consortium" must be selected as the Budget Type, and all sections of the budget form for each project year must be completed in accordance with the R&R (Federal/Non-Federal) Budget instructions provided above in Part V.F.5. Note that subaward organizations are also required to provide their DUNS or DUNS+4 number.

You may extract and attach up to 10 subaward budget forms. When you use the button "Click here to extract the R&R Budget (Fed/Non-Fed) Attachment," a Research & Related Budget (Total Fed + Non-Fed) form will open. Each institution that will hold a subaward to perform a substantive portion of the project must complete one of these forms and save it as a PDF file with the name of the subawardee organization. Once each subawardee institution has completed the form, you must attach these completed subaward budget form files to the R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form. Each subaward budget form file attached to this form must have a unique name.

Note: This R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form must be used to attach only one or more Research & Related Budget (Total Fed + Non-Fed) form(s) that have been extracted from this form. Note the form's instruction: "Click here to extract the R&R Budget (Fed/Non-Fed) Attachment". **If you attach a file format to this form that was not extracted from this attachment form your application will be rejected with errors by Grants.gov.**

7. Other Forms Included in the Application Package

You are required to submit the first two forms identified here. You are not required to submit the third form, Disclosure of Lobbying Activities – Standard Form LLL, unless it is applicable.

- SF 424B-Assurances-Non-Construction Programs.
- Grants.gov Lobbying form (formerly ED 80-0013 form).
- Disclosure of Lobbying Activities – Standard Form LLL (if applicable).

G. SUMMARY OF REQUIRED APPLICATION CONTENT

R&R Form	Required	Instructions Provided	Additional Information
Application for Federal Assistance SF 424 (R & R)	☑	Part V.F.1	Form provided in Grants.gov application package
Senior/Key Person Profile (Expanded)	☑	Part V.F.2	Form provided in Grants.gov application package
Project/Performance Site Location(s)	☑	Part V.F.3	Form provided in Grants.gov application package
Other Project Information	☑	Part V.F.4	Form provided in Grants.gov application package
Budget (Total Federal + Non-Federal): Sections A & B Sections C, D, & E Sections F – K	☑	Part V.F.5	Form provided in Grants.gov application package
R&R Subaward Budget (Fed/Non-Fed) Attachment(s) Form	--	Part V.F.6	Form provided in Grants.gov application package. Use this form to *extract and attach* a subaward budget(s).
SF 424B Assurances – Non-Construction Programs Grants.gov Lobbying form (formerly ED 80-0013 form) Disclosure of Lobby Activities – Standard Form LLL (if applicable)	☑ ☑ --	Part V.F.7	Forms provided in Grants.gov application package
Project Summary/Abstract	☑	Part IV.D.1	Add as an attachment (PDF file) using Item 7 of the "Other Project Information" form
Project Narrative and Appendices • Narrative • Appendix A • Appendix B • Appendix C • Appendix D • Appendix E	 ☑ -- -- -- -- --	Part IV.D.2-7	The Project Narrative and applicable appendices must ALL be included together in one PDF file and attached at Item 8 of the "Other Project Information" form.
Bibliography and References Cited	☑	Part IV.D.9	Add as an attachment (PDF file) using Item 9 of the "Other Project Information" form.
Research on Human Subjects Narrative, if human subjects are involved	☑	Part IV.D.10	Add as an attachment (PDF file) using Item 12 of the "Other Project Information" form.
Biographical Sketches of Senior/Key Personnel	☑	Part IV.D.11	Add each as a separate attachment (PDF file) using the "Senior/Key Person Profile (Expanded)" form.
Narrative Budget Justification	☑	Part IV.D.12	Add as an attachment (PDF file) using *Section K – Budget Period 1* of the "Budget (Total Federal + Non-Federal)" form.

H. APPLICATION CHECKLIST

Have each of the following forms been completed?	
	SF 424 Application for Federal Assistance
	For item 4b, is the correct topic/role code included following the instructions in Part V.F.1?
	For item 8, is the Type of Application appropriately marked “New” following the instructions in Part V.E.1?
	Senior/Key Person Profile (Expanded)
	Project/Performance Site Location(s)
	Other Project Information
	Budget (Total Federal + Non-Federal): Sections A & B; Sections C, D, & E; Sections F - K
	R&R Subaward Budget (Federal/Non-Federal) Attachment(s) form (if applicable)
	SF 424B Assurances – Non-Construction Programs
	Grants.gov Lobbying form (formerly ED 80-0013 form)
	Disclosure of Lobby Activities – Standard Form LLL (if applicable)
Have each of the following items been attached as PDF files in the correct place?	
	Project Summary/Abstract, using Item 7 of the "Other Project Information" form
	Project Narrative and applicable appendices as a single file using Item 8 of the "Other Project Information" form
	Bibliography and References Cited, using Item 9 of the "Other Project Information" form
	Research on Human Subjects Narrative, either the Exempt Research Narrative or the Non-exempt Research Narrative, using Item 12 of the "Other Project Information" form
	Biographical Sketches of Senior/Key Personnel, using "Attach Biographical Sketch" of the “Senior/Key Person Profile (Expanded)” form
	Narrative Budget Justification, using Section K – Budget Period 1 of the "Budget (Total Federal + Non-Federal" form
	Budget (Total Federal + Non-Federal): Sections A & B; Sections C, D, & E; Sections F – K for the Subaward(s), using the “R&R Subaward Budget (Federal/Non-Federal) Attachment(s)” form, as appropriate, that conforms to the Award Duration and Cost Maximums for the Network topic and role selected

Have the following actions been completed?	
	The correct PDF files are attached to the proper forms in the Grants.gov application package
	The "Track My Application" link has been used to verify that the upload was fully completed and that the application was processed and validated successfully by Grants.gov before 4:30:00 p.m., Washington, DC time on the deadline date

PROGRAM OFFICER CONTACT INFORMATION

As a reminder, please contact the Institute's program officers with any questions you may have. Program officers function as knowledgeable colleagues who can provide substantive feedback on your research idea, including reading a draft of your project narrative. Program officers can also help you with any questions you may have about the content and preparation of PDF file attachments.

Dr. Corinne Alfeld
Email: Corinne.Alfeld@ed.gov
Telephone: (202) 245-8203

However, any questions you have about individual forms within the application package and electronic submission of your application through Grants.gov should be directed first to the Grants.gov Support Center at support@grants.gov or call 1-800-518-4726.

GLOSSARY

Area Career and Technical Education School: From Section 3(3) of the Carl D. Perkins Career and Technical Education Act of 2006: "The term 'area career and technical education school' means—
"(A) a specialized public secondary school used exclusively or principally for the provision of career and technical education to individuals who are available for study in preparation for entering the labor market;
"(B) the department of a public secondary school exclusively or principally used for providing career and technical education in not fewer than 5 different occupational fields to individuals who are available for study in preparation for entering the labor market;
"(C) a public or nonprofit technical institution or career and technical education school used exclusively or principally for the provision of career and technical education to individuals who have completed or left secondary school and who are available for study in preparation for entering the labor market, if the institution or school admits, as regular students, individuals who have completed secondary school and individuals who have left secondary school; or
"(D) the department or division of an institution of higher education, that operates under the policies of the eligible agency and that provides career and technical education in not fewer than 5 different occupational fields leading to immediate employment but not necessarily leading to a baccalaureate degree, if the department or division admits, as regular students, both individuals who have completed secondary school and individuals who have left secondary school."

Authentic Education Setting: Proposed research activities must be relevant to education in the United States and must address factors under the control of the U.S. education system (be it at the national, state, local, and/or school level). To help ensure such relevance, the Institute requires research to work within or with data from authentic education settings. Authentic education settings include both in-school settings and formal programs that take place after school or out of school (e.g., after-school programs, distance learning programs, on-line programs, and work-based learning programs) under the control of schools or state and local education agencies. Formal programs not under the control of schools or state and local education agencies are not considered as taking place in an authentic education setting and are not appropriate for study under the Networks program. For the FY 2018 Research Network competition, authentic education settings can be identified for the following education levels:

- Authentic K-12 CTE Settings are defined as the following:
    - K-12 schools (including publicly supported charter schools) and alternative school settings (e.g., alternative schools or juvenile justice settings).
    - School systems (e.g., local education agencies or state education agencies).
    - Career and technical education centers affiliated with schools or school systems.
    - Industry settings for work-based learning where there is a formal agreement between the school and the employer regarding students' expected learning outcomes.

- Authentic Postsecondary CTE Settings are defined as the following:
    - Colleges and universities that have education programs leading to occupational certificates, Associate's or Bachelor's degrees.
    - Career and technical education centers affiliated with postsecondary institutions.
    - Industry settings for work-based learning where there is a formal agreement between the institution and the employer regarding students' expected learning outcomes.

Career and Technical Education (CTE): Career and technical education (CTE) comprises instruction in the academic, technical, and employability skills and knowledge required to enter into and succeed in specific occupations. At the secondary level, CTE introduces students to possible career fields and allows them to begin to build marketable skills and, in some cases, credentials; at the postsecondary level, CTE provides an entry point for new or returning students to learn specific knowledge and specialized skills in a particular occupational field. At both levels, CTE often includes work-based learning experiences.

The following are legislative and administrative definitions of CTE:

From Section 3(5) of the Carl D. Perkins Career and Technical Education Act of 2006: The term "career and technical education'" means organized educational activities that--
(A) offer a sequence of courses that--
(i) provides individuals with coherent and rigorous content aligned with challenging academic standards and relevant technical knowledge and skills needed to prepare for further education and careers in current or emerging professions;
(ii) provides technical skill proficiency, an industry-recognized credential, a certificate, or an associate degree; and
(iii) may include prerequisite courses (other than a remedial course) that meet the requirements of this subparagraph; and
(B) include competency-based applied learning that contributes to the academic knowledge, higher-order reasoning and problem-solving skills, work attitudes, general employability skills, technical skills, and occupation-specific skills, and knowledge of all aspects of an industry, including entrepreneurship, of an individual.

From the National Center for Education Statistics (NCES): NCES defines career and technical education (CTE) as "courses (at the high school level) and programs (at the postsecondary subbaccalaureate level) that focus on the skills and knowledge required for specific jobs or fields of work. The occupational fields included in this definition are: agriculture and natural resources; business support, management, and finance; communications and design; computer and information sciences; construction; consumer services; education; engineering, architecture, and science technologies; health sciences; manufacturing; marketing; public, legal, social, and protective services; repair; and transportation. At the high school level, CTE is sometimes expanded beyond 'occupational education' to also include family and consumer sciences education and courses that provide general labor market skills. A crosswalk provides an overview of how these CTE fields are typically classified at each education level, and how they relate to the Career Clusters."

Career and Technical Education Student: The Carl D. Perkins Career and Technical Education Act of 2006 gives states the discretion to identify the student populations on which they will report outcome data. In non-regulatory guidance, ED recommended that states use the definitions below.

Secondary Level

CTE Participant: A secondary student who has earned one (1) or more credits in any career and technical education (CTE) program area.

CTE Concentrator: A secondary student who has earned three (3) or more credits in a single CTE program area (e.g., health care or business services), or two (2) credits in a single CTE program area, but only in those program areas where 2 credit sequences at the secondary level are recognized by the State and/or its local eligible recipients.

Postsecondary/Adult Level

CTE Participant: A postsecondary/adult student who has earned one (1) or more credits in any CTE program area.

CTE Concentrator: A postsecondary/adult student who: (1) completes at least 12 academic or CTE credits within a single program area sequence that is comprised of 12 or more academic and technical credits and terminates in the award of an industry-recognized credential, a certificate, or a degree; or (2) completes a short-term CTE program sequence of less than 12 credit units that terminates in an industry-recognized credential, a certificate, or a degree.

Career Clusters: The Institute uses Career Clusters to represent CTE areas. A Career Cluster is a grouping of occupations and broad industries based on commonalities. The Association for Career and Technical Education and Advance CTE recognize the following 16 career clusters:[17] •Agriculture, Food & Natural

[17] NCES uses slightly different categories for its analyses of transcript data.

Resources, •Architecture & Construction, •Arts, A/V Technology & Communications, •Business Management & Administration, •Education & Training, •Finance, •Government & Public Administration, •Health Science, •Hospitality & Tourism, •Human Services, •Information Technology, •Law, Public Safety, Corrections & Security, •Manufacturing, •Marketing, •Science, Technology, Engineering & Mathematics, •Transportation, Distribution & Logistics.

Compliant: The part of the process of screening applications for acceptance for review that focuses on compliance with the application rules (e.g., page length and formatting requirements, completion of all parts of the application).

Efficacy study: A study that tests an intervention's beneficial impacts on student education outcomes in comparison to an alternative practice, program, or policy.

Evaluability: "The extent to which an activity or project can be evaluated in a reliable and credible fashion" (OECD-DAC 2010; p.21).

Evaluability Assessment: "Before devoting institutional dollars to a full-scale program evaluation that may be costly and time intensive, a pre-evaluation strategy known as evaluability assessment can be used to determine whether a program meets the minimal preconditions necessary for the results of a full-scale evaluation to be meaningful and useful to college decision makers" (McKinney, 2010, p. 299).

Evaluation: See Efficacy Study.

Fidelity of implementation: The extent to which the intervention is being delivered as it was designed to be by end users in an authentic education setting.

Final manuscript: The author's final version of a manuscript accepted for publication that includes all modifications from the peer-review process.

Fully developed intervention: An intervention is fully developed when all materials and products required for its implementation by the end user are readily available for use in authentic education settings.

Intervention: The wide range of education curricula, instructional approaches, professional development, technology, and practices, programs, and policies that are implemented at the student, classroom, school, district, state, or federal level to improve student education outcomes.

Moderators: Factors that affect the strength or the direction of the relationship between the intervention and student education outcomes (e.g., an intervention's impacts may differ by such student characteristics as achievement level, motivation, or social-economic status; and by organizational or contextual factors, such as school size or neighborhood characteristics).

Mediators: Factors through which the relationship between the intervention and student education outcomes occurs (e.g., many interventions aimed at changing individual student education outcomes work through changing teacher behavior, student peer behavior, and/or student behavior).

Responsive: The part of the process of screening applications for acceptance for review that focuses on responsiveness to the Request for Applications. This screening includes making sure applications (1) are submitted to the correct competition and/or topic and (2) meet the basic requirements set out in the Request for Applications.

Student education outcomes: The outcomes to be changed by the intervention. The intervention may be expected to directly affect these outcomes or indirectly affect them through intermediate student or

instructional personnel outcomes. For the CTE Network competition, at least one of each outcome in the first two categories is required; the second two categories of outcomes are optional.

- Student career and technical education outcomes: CTE outcomes that reflect learning and achievement in CTE (e.g., CTE courses taken; CTE course grades; CTE credits earned; technical skills assessment scores, including end-of-course assessments; industry certifications; occupational certificates; associate's and bachelor's degrees in a technical field).
- Student academic outcomes: Academic outcomes that reflect learning and achievement in the core academic content areas (e.g., measures of understanding and achievement in reading, writing, math, and science) and/or students' successful progression through the education system (e.g., course and grade completion and retention in grade K through 12; high school graduation and dropout; postsecondary enrollment, progress, and completion).
- Social and behavioral competencies: Social skills, attitudes, and behaviors that may be important to students' academic and post-academic success.
- Employment outcomes: Indicators of success in the labor market (e.g., employment, earnings.

Student Subgroups: Male, female, and groups of students from different income levels; urban, suburban, or rural communities; various race/ethnic backgrounds; different levels of achievement; proficiency in English; involvement with the criminal justice or child welfare systems; participation in nontraditional CTE programs (i.e., programs linked to occupations or fields of work in which individuals from one gender comprise less than 25 percent of the individuals employed in those occupations or fields of work; or disability status).

Theory of change: The underlying process through which key components of a specific intervention are expected to lead to the desired student education outcomes. A theory of change should be specific enough to guide the design of the evaluation (e.g., selecting an appropriate sample, measures and comparison condition).

Validity: "The degree to which accumulated evidence and theory support a specific interpretation of test scores for a given use of a test. If multiple interpretations of a test score for different uses are intended, validity evidence for each interpretation is needed" (AERA, 2014).

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ALLOWABLE EXCEPTIONS TO ELECTRONIC SUBMISSIONS

You may qualify for an exception to the electronic submission requirement and submit an application in paper format if you are unable to submit the application through the Grants.gov system because: (a) you do not have access to the Internet; or (b) you do not have the capacity to upload large documents to the Grants.gov system; and (c) no later than 2 weeks before the application deadline date (14 calendar days or, if the fourteenth calendar date before the application deadline date falls on a Federal holiday, the next business day following the Federal holiday), you mail or fax a written statement to the Institute explaining which of the two grounds for an exception prevents you from using the Internet to submit the application. If you mail the written statement to the Institute, it must be postmarked no later than 2 weeks before the application deadline date. If you fax the written statement to the Institute, the faxed statement must be received no later than 2 weeks before the application deadline date. The written statement should be addressed and mailed or faxed to:

Ellie Pelaez, Office of Administration and Policy
Institute of Education Sciences, U.S. Department of Education
555 New Jersey Avenue, NW, Room 600E
Washington, DC 20208
FAX: (202) 219-1466

If you request and qualify for an exception to the electronic submission requirement you may submit an application via mail, commercial carrier or hand delivery. To submit an application by mail, mail the original and two copies of the application on or before the deadline date to:

U.S. Department of Education
Application Control Center
Attention: CFDA# (84.305N)
LBJ Basement Level 1
400 Maryland Avenue, S.W.
Washington, DC 20202 – 4260

You must show one of the following as proof of mailing: (a) a legibly dated U.S. Postal Service Postmark; (b) a legible mail receipt with the date of mailing stamped by the U.S. Postal Service; (c) a dated shipping label, invoice, or receipt from a commercial carrier; or (d) any other proof of mailing acceptable to the U.S. Secretary of Education (a private metered postmark or a mail receipt that is not dated by the U.S. Postal Services will not be accepted by the Institute). Note that the U.S. Postal Service does not uniformly provide a dated postmark. Before relying on this method, you should check with your local post office. If your application is postmarked after the application deadline date, the Institute will not consider your application. The Application Control Center will mail you a notification of receipt of the grant application. If this notification is not received within 15 business days from the application deadline date, call the U.S. Department of Education Application Control Center at (202) 245-6288.

To submit an application by hand, you or your courier must hand deliver the original and two copies of the application by 4:30:00 p.m. (Washington, DC time) on or before the deadline date to:

U.S. Department of Education
Application Control Center
Attention: CFDA# (84.305N)
550 12th Street, S.W.
Potomac Center Plaza - Room 7039
Washington, DC 20202 – 4260

The Application Control Center accepts application deliveries daily between 8:00 a.m. and 4:30 p.m. (Washington, DC time), except Saturdays, Sundays and Federal holidays.