

IES Webinar - Overview of Continuous Improvement Research in Education and Evaluation of State and Local Education Programs and Policies

Allen Ruby:

This is Allen Ruby, and I'm here today with James Benson. We'll be talking about two of the topics within the Partnerships and Collaborations Focused on Problems of Practice or Policy grant program, shorthand 84305H. We'll discuss the Continuous Improvement Research in Education topic and the Evaluation of State and Local Education Programs and Policies topic.

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Here is an outline of what we'll cover. We'll do a very quick overview of IES and its mission, then we'll go to the two topics, starting with two requirements that apply to both topics, then we'll go into each topic, discuss their purpose and three sections of the project narrative that differ for them. Then we'll discuss the remaining two sections of the project narrative that are fairly similar, talk about some other sections of the application and then give a little bit of information on preparing and submitting an application.

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The legislative mission of IES is to do these three things: to describe the condition of progress of education, to identify education practices that improve student academic achievement and access, and to evaluate the effectiveness of federal and other education programs.

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IES has a Director appointed by the President, confirmed by the Senate who is advised by a board, also appointed by the President, and confirmed by the Senate. Under the director are four centers: 1) the National Center for Education Evaluation which primarily oversees large evaluation studies and oversees the Regional Education Laboratories and the What Works Clearing House; 2) the National Center for Education Statistics responsible for large-scale data collection on the condition of education and also grants to states to build statewide longitudinal data systems. There are two research grant-making centers, the National Center for Education Research, which James and I belong to, and the National Center for Special Education Research. This is where the program officers are housed. We can work closely with you on developing your application.

Program officers are not involved in the grant review process. The review process is run by a separate office, the Standards and Review Office, which is directly under the Director. Separating program officers from the review process allows program officers to work closely with applicants on developing a grant application.

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The purpose of the research grant programs is to answer four questions. First, what works to improve student education outcomes? Once we know this, we can then more widely disseminate these types of practices, programs and policies. Second, what doesn't work: so we can stop disseminating those types of programs and policies. Third, what works for whom and where: we know not every intervention works for everyone or in every type of school or district, so we want to know when an intervention should be used, where it should be used, and for whom it should be used. Finally, why does something work? Knowing this allows us to better understand how to improve education and build on that understanding.

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Partnerships have become increasingly important within IES. This slide shows two points regarding partnerships that are set out in the Institute's priorities (priorities are set by the Director and approved by the Board). Partnerships are to help focus research on issues that concern policymakers and practitioners, as well as to help researchers better communicate their findings in useful ways. When partnerships are explicitly called for in a grant program, the expectation is that the proposed work will be collaborative from the start to the finish, that the researchers will work directly with the practitioner partners, normally an education research agency, to develop the research questions, to agree on the research design and its implementation, to discuss the results as they come in and the ongoing direction of the research, and to consider the practice and policy of the findings, as well as to disseminate the findings and plan for future research.

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IES has always supported partnerships. Research partnerships can be done under our two main grant programs, the Education Research Grant Program (84.305A) and the Special Education Research Grant Program (84.324A). In 2009 IES began special grant programs that require partnerships. Today, these are housed under one grant program, Partnerships and Collaborations (84.305H), that has three topics. The first topic, Researcher-Practitioner Partnerships, was covered in a previous webinar. That topic supports initial research by new or existing partnerships and is to lead to further joint research.

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Today we'll cover the remaining two topics. The Continuous Improvement Research in Education topic (Continuous Improvement) is for well-established partnerships to address a specific education issue or problem faced by an education agency, a state one or a district, by adopting and revising an approach to addressing that issue and problem using a continuous improvement strategy. The Evaluation of State and Local Education Programs and Policies topic (State/local Evaluation) is for both new and established partnerships to evaluate an existing program or policy that is being implemented by a state or the district education agency.

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Let's move to two requirements that both topics share - you must address both of these as you write your application: a focus on student education outcomes and applying as a partnership to carry out your proposed research.

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IES focuses on research that improves the quality of education for all students; therefore, all the research we fund must address the education outcomes of students. Education outcomes include both academic outcomes as well as social and behavioral outcomes that support students' success in school. You may address one or a combination of these.

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You have to address students from pre-kindergarten up through post-secondary and adult education. Within this grouping, you can address any grade range. For example, you could say I just want to focus on fifth grade, or I want to examine all of middle school. Or you may look at transitions, for example, looking at the transition from high school into college. So as long as you are within this population, you're fine. You don't have to address the whole population, but you have to be working with students from within it.

You can address education outcomes for students without disabilities, students with or at risk of disabilities, or you can address both. If you're going to work with students at risk for disabilities, you should look at the website (listed on the slide) of the National Center for Special Education research, because they have a very specific definition of at-risk. Please keep in mind, though, that you cannot address children from birth to pre-K (which can be done under the grants from the National Center for Special Education Research). For this grant program, the earliest students you can work with are those in pre-K.

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The next two slides identify the student education outcomes of interest that we ask you to examine. You don't have to examine all of these but must include at least one of them in your work. If you're working in pre-kindergarten, you'll want to look at school readiness, defined as pre-reading, language, vocabulary, early math and science knowledge plus the social and behavioral competences. If you're looking at students between kindergarten and grade 12, there are two categories of student academic outcomes. First, learning outcomes in the major academic subjects, reading, writing, math and science, for example, standardized test scores, end-of-course exams, exit exams, or grades. Second, progress through the education system, for example, completing a course, completing a grade, being retained, graduating from high school, or dropping out. Also, there are the social skills and behaviors that support the academic outcomes.

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For post-secondary education, which we define as baccalaureate and sub-baccalaureate, outcomes include access to or enrollment in these program, persistence in them, progression

through them, and completion of the actual education program, which may be certificate programs or degree programs. For developmental or remedial education programs only, additional achievement outcomes can be used including achievement in reading, writing, English language proficiency and mathematics.

For adult education (adult basic education, adult secondary education, English as a second language and GED preparation) which is for students who are 16 years or older and outside the K-12 system, the outcomes include achievement in reading, writing, English language proficiency, mathematics, as well as access to, persistence in, progress through and completion of these programs.

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The second requirement is that you must apply as a partnership, and that partnership, at a minimum, must include a research institution, and a U.S. education agency. Before discussing the requirements for each partner, we'll note the requirement that each partner must contribute a Principle Investigator (PI). The principle investigator from the research institute must have the ability to conduct research of the type proposed, so they should have either strength in the methodology you're proposing to use or in the substantive area you will be looking at.

The principle investigator from the state or local education agency must have a degree of decision-making authority over the education issue that you are examining. They don't have to be the superintendent but they have to be at a high enough level within the district or the state so that they can influence the decisions being made.

The research institution and the education agency can provide one or multiple PIs. There will have to be on lead PI, who will serve as the overall director of the project and be the point of contact with IES with responsibility for the grant. The PI's institution will receive the grant and can make sub-awards to the other organizations involved in the partnership.

The other organization will provide a Co-PI who will serve as the leader of that organization in the partnership. Additional Co-PIs can be provided by either organization. New this year, we're asking for a joint letter of agreement from both partners. In these you are to discuss the roles and responsibilities each organization will have. The letter might be thought of as a small version of a memorandum of understanding. Other members of the partnership can provide separate letters of agreement.

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Regarding the status of the partnership, I noted earlier that applications to the Continuous Improvement topic requires an existing partnership. So in your application to Continuous Improvement, you'll need to document at least one year of collaboration and describe and products that have come out of the past work. For the State/Local Evaluation topic, you can have either a new or an existing partnership.

Let's discuss what we mean by a research institution and an education agency? IES has a very broad definition for a research institution, if you can show that your organization has the ability and capacity to conduct the type of research you're proposing within these two topics, then you would be considered a research institution.

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Turning to defining education agencies, we start with state education agencies for which there are multiple types, for example agencies, departments, boards, and commissions. The key point is that they oversee some aspect of education. They may oversee the majority of the state's education system or a specific subsector such early learning, postsecondary, or adult education.

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Regarding local education agencies, we're primarily talking about public school districts.

For postsecondary education, some states have community college districts. Regarding postsecondary systems, states or cities may have a higher education office (or board or commission) and these would be acceptable partners. In cases, where such higher education offices don't exist (when a public postsecondary system is overseeing itself), that postsecondary system can apply as the education agency partner. A key restriction on applications with postsecondary institutions is that a postsecondary system cannot serve as both the research institution and the education partner. That means the postsecondary system can't study itself. Even if there are separate units, for example, one campus studying another or an institutional research office studying the whole, that's not acceptable. The post-secondary institution has to choose. It can either be the education agency, or it can be the research institution.

Non-public organizations that oversee or administer schools, such as education management organizations or charter-management organizations, cannot serve as the sole education agency partner. These organizations can be partners, but you still need to bring in the state or the district agency that oversees their work. Often there is a state or district charter office or a state charter board or a district charter board or commission. They would need to be brought in to the partnership as well.

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You can have multiple additional partners. You may decide there should be more than one state or local education agency. If you do that, you should show that they have similarities or similar interests in the education issue being addressed. Sometimes it's very useful to do that if you want to work on an issue, let's say, that affects small rural districts. It may be hard to argue for the significance of a project if you only have one small rural district. But if you could bring on multiple rural districts, and then say, these multiple districts also represent a larger population of other rural districts, that would provide a much stronger significance to the work you're proposing.

You may want to bring on some of the non-education state or local agencies that are involved as well. So, for example, if you're looking at the education of students in juvenile justice systems, you may want to bring in the juvenile justice system as well as the state education agency. If you are doing research on foster children, you may want to include the social services department. These types of agencies can be additional partners but you still need to have an education agency as the main partner.

You may want to bring in another research institution, if they're contributing other skills. So you may say, well, I'm an expert in the substantive area. I'm bringing in somebody from another research institution who's very strong in a methodology we'll be using. That's fine as well, as long as you're showing why you need to have more institutions involved.

You can bring in non-research organizations, such as issue-oriented groups or stakeholder groups that will contribute to the partnership. These community organizations may know a lot about the topic and may be helpful in doing outreach to increase participation in a study.

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As a last quick check, let me again say that IES funds partnerships outside the 305H grant program. Just because you have a partnership doesn't mean Partnerships and Collaborations is the right grant program for you. So please think about the research you want to do and whether it fits under this grant program and either of the topics we'll discuss. Or perhaps, is it a better fit under one of other grant programs. If it doesn't seem clear where your research best fits, please talk to a program officer.

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Next we'll move on to the specifics and the two topics. We'll start with the Continuous Improvement Research in Education topic and I'll turn the webinar over to James Benson as he is the program officer for that topic.

James Benson:

Good afternoon, everybody. I'm James Benson, and I'm going to lay out some of the details of the Continuous Improvement Research in Education topic, and provide some advice as to what you need to include in your application for a Continuous Improvement project.

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There are several purposes of the Continuous Improvement topic, the primary one is to promote joint research in which research institutions work together with state and local education agencies to address an education issue or problem of key importance to the agency. The purpose of this research is to directly contribute to solving some specific issue or problem faced by a state or local education agency.

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The primary objective of the Continuous Improvement project is to implement and then adapt and revise an educational approach that holds promise for addressing an issue of concern to the agency or agencies, and that holds promise for improving student outcomes as covered earlier in the presentation. Please note that a primary purpose of a Continuous Improvement project is not to evaluate the effectiveness of a continuous improvement strategy, or to compare different continuous improvement strategies. It is good to draw larger lessons for the field from a Continuous Improvement project, but the primary focus of your project should be on adapting and revising an educational approach, not a continuous improvement strategy.

A secondary goal of this research program is to increase the agency's capacity to carry out research in the future. Through the process of implementing an approach and systematically measuring how educators and students respond to it in the field, as well as conducting a comparison study, it is our hope that agencies will develop skill and capacity for solving other issues of concern to them. Another secondary goal is that of developing knowledge within the field of continuous improvement and implementation research regarding how approaches can be adopted to address local conditions within the context of widespread implementation.

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The Request for Applications lists the expected products that are to come out of the grant. Many of these you would discuss in your annual and final reports to IES. You would describe how the partnership developed over the grant period, the actual education issue or problem you addressed, the approach you took to address it, and how you implemented, adapted and revised the approach to address the issue. You would note if there were changes made in the approach or if the education system itself changed, and why were those changes made. Also, you would discuss what process you used to decide to make adaptations and revisions and upon what data those decisions were made.

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While there are many good research agendas that begin with researchers, the intent here is that the agency will take the lead in defining the issue or problem that must be addressed and in choosing the approach taken to address it. An approach can be an intervention including a state-level policy or program. It can also be a set of practices at different levels of the education system, for example, at the classroom, school leader, and district levels. A priority is that the approach should hold promise for improving student outcomes, and this promise should be established through either a strong theoretical rationale, through good empirical evidence of promise, or both.

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Let's move on to the project narrative. This is the substantive part of your application. It is 25 pages long, and in it, you describe the significance of your work, your plan for the work, who is taking part, and the type of resources you bring to the work.

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In the Significance section, make sure to clearly describe these four dimensions: first, the education issue or problem; second, the approach that you will take and adapt and revise; third, the education system in which the approach will be adapted and revised; and fourth, current practice within the education system. In the next slides, I will provide more detail on each of these.

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When describing the education issue or problem, you should discuss its relevance to students in the district or state, as well as students across the country, potentially focusing on specific student groups. You should also discuss its importance to education agencies, policymakers, and stakeholders beyond the context of the proposed project.

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When describing the proposed approach to be implemented, adapted and revised, in order to address the education issue, you should include supporting theory as well as empirical findings. If you expect the approach to affect student outcomes indirectly through mediating processes, you should discuss these processes as well as their linkages to student outcomes, and supporting evidence that the proposed approach can affect the mediating processes, and related intermediate outcomes, which should measure the mediating process accurately.

The questions here are: what approach or approaches are you going to take to address this education issue, what are you going to implement, what are you going to try and adapt and revise, and how these contrast with current practice. You want to be able to show that there are reasons why this approach differs from current practice, why it doesn't suffer from the same shortcomings, and why it has theoretical and/or empirical reasons why it may improve student outcomes versus what is being done now. You also are going to want to argue that implementation can be done, that it can be implemented with teachers and other education personnel, given their working conditions, and that there is some promise that overall, this approach should improve student outcomes.

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When describing the education system, you want to look at where implementation is going to occur, both at what level and within what specific parts of the education system. It may be that not only will the approach change over time as you adapt and revise it but the system itself may need changing over time to allow this approach to work. We suggest that Continuous Improvement projects look carefully at the overall education system, as well as key dimensions of it, for example, allocations and scheduling of teacher training to see whether the system or a crucial dimension within it is limiting the approach being implemented.

For this reason and others, the RFA requires Continuous Improvement projects to include at least one person with decision-making power relevant to the approach being taken at the agency. If it turns out that the agency policy or structure is holding back the success at the approach, changes

may need to be made that will allow the approach to be more successful within the system. Measurements of the feasibility of the approach within the system and the extent to which the system facilitates the approach should be included in the measurement plan and assessed in the research plan.

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If the agency is already implementing the approach, discuss why a Continuous Improvement grant is needed. If the agency is not implementing the approach, discuss how the agency has decided to do so, and how it will obtain the necessary materials. I will note that the grant is not to be used to purchase an existing intervention. Grant funds are to be used to support implementation, adaptation, and revision of the approach. They can also support the measurement and feedback activities necessary to support adaptation and revision. They can support the ongoing comparison study. They can also support capacity-building activities for the education agency. Funds can be used to support personnel from any of the partners, including school, district and state personnel that are carrying out these varied activities of the project.

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The next section of your application is the Partnership section. This is a new section that has been added this year to this RFA, and it's really important that you describe your partnership, and your partnership activities, in detail in this section. The reason for this section is that reviewers wanted to be able to separately score applications on the strength of the partnership and its plans for its own development, and applicants wanted to write about the partnership separately from the significance section.

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So, in your Partnership section, I suggest that you describe the strengths that the research agency and the education agency partners bring to the partnership. Other members should also be described in terms of the skills that they bring to the work at hand. The partnership's previous work as a partnership between organizations should be described. This does not include education agency-consultant relationship. Oftentimes, consultants will want to count their work with an agency towards the one-year prior work requirement but a consulting relationship does not count towards that requirement.

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The common interests that bring the partners together should be discussed. We suggest that you avoid the appearance of a partnership of convenience (partnerships that include multiple education agencies whose only similarity is that they have all worked with the same research institution). You should describe the reasoning and deliberations that led the partnership to propose a Continuous Improvement project, and you should also describe the structure of the partnership. This structure of the partnership, which would include the management structure and how decision-making will occur within the partnership is something that you should also describe in your joint partnership letter, which will be placed in Appendix D.

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In your partnership development plan, partnership activities are expected to include ongoing focused meetings to make sense of research findings and plan implementation. A strong application will go beyond simply promising that regular meeting should occur. Rather, meetings should have a purpose, and should fit into a broader structure that helps to institutionalize these activities. Capacity-building depends on the initial capacity of the agency and its interest. Also, the expectation for partnership-building activities will be less for a well-formed and longstanding partnership than for a more recent partnership. There is no expectation that agencies will be able to implement continuous improvement research on their own after a Continuous Improvement grant.

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Tracking the partnership is an important part of the partnership plan. During the project, the partnership should have a strategy for assessing whether it is on-track, and for making adjustments to partnership processes where necessary. At the end of the project, the partnership should sum up what the partnership has accomplished in terms of imbedding continuous improvement and research practices within the agency, and discuss opportunities for future work. The discussions should include basic measures of success, such as maintaining the partnership during the life of the project and completing the adaptation revision and comparison proposed. IES encourages you to include other indicators that you would value as signs of the project's success, and that could be used by others carrying out similar collaborative work.

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Now we're going to move on and describe the details of the Research Plan section.

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In the Research Plan section, make sure that you clearly describe these three dimensions: a measurement strategy and plan for data collections; the continuous improvement process; and an ongoing comparison study of student outcomes.

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For the measurement strategy, keep in mind that your strategy should be connected to your theory of change. If you propose to adapt an instructional approach that involves teachers adopting new practices, then your measurement strategy should track how teachers are responding to and making use of the approach, and whether they have the resources in terms of time, materials, and organizational support that are necessary to implement the approach. Because a Continuous Improvement project seeks to improve an approach using relatively rapid improvement cycles, most often of less than year's duration, your measurement strategy should include short-term and intermediate outcomes capable of capturing how the approach is

functioning and what kind of promise it is showing from moving toward the longer-term outcomes your project seeks to improve.

So in other words, the short-term and intermediate outcomes are outcomes that you will be collecting during the rapid improvement cycles, and they should be linked both to your theory of change and to the longer-term outcomes. A strong application will also include measures of the education system, especially elements of it that may enable or constrain the approach. We recommend describing your construction of measures, including construction of any new measures you deem essential for the project, and then discussing the importance of these measures for the improvement process.

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The continuous improvement process is where the partners, the measures, and implementation all come together. The application should specify the starting approach, that is, the approach that the partnership will initially move into the field. Next, the application should describe an analysis process that addresses how the partnership will study and interpret data collected through the measurement strategy. A strong application will specify not only the appropriate data analytic techniques, but also the organizational infrastructure, routines and practices within the partnership that will facilitate and expedite decisions regarding subsequent improvements to the approach. Measures of usability and feasibility as well as short and medium-term outcomes should inform this process.

The implementation process addresses how the partnership will implement iterative revisions of the approach. This section should describe organizational routines that facilitate revision of the approach. What I'm speaking about here is not just the organizational routines related to making sense of the data and the findings from the measurement process, but organizational routines that involve moving adapted and revised approaches back out into the field so that they are implemented in their new form.

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And finally, I'm going to speak about the ongoing comparison study. This study embodies a revision from last year, when a pilot study was required in the RFA. The ongoing comparison study is intended to be easier to do, and the reason is that it is intended to be easier to do is because we know that continuous improvement projects are going to devote a lot of resources and attention to the improvement process. For the ongoing comparison study, student outcomes should be drawn from administrative data. No additional assessment or surveying should be needed, unless, of course, you feel like that is necessary and you propose to do it. Comparison site practice should be measured using simple methods, for example, you could interview a small number of knowledgeable persons or written documents related to activities at comparison schools rather than doing direct observations or surveying staff at the schools. The purpose here is to have a gross comparison to see if any obvious differences in student outcomes are occurring, and to check if comparison schools are changing over time.

This type of comparison should be useful to the education agency in the future. If you feel that you want to do more than an ongoing comparison study, and you can do more within the resources that you have for the project, you're free to do so. But we wanted to reduce the requirement so that people were not feeling pressure to do a pilot or efficacy study. That brings to a conclusion my presentation of the Continuous Improvement topic. I'll turn it over to Allen Ruby for the State/Local Evaluation topic discussion.

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Hi, it's Allen Ruby again, and we'll move to the third topic, the Evaluation of State and Local Education Programs and Policies.

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As mentioned before, the purpose of the State/Local Evaluation topic is to carry out a joint evaluation of a specific education program or policy implemented by the education agency. So you want to identify the specific program or policy and its intended outcomes on student education. Please don't write an application that says the partnership will identify the program or policy after receiving the grant. Your evaluation should contribute directly to the state's or the district's decision-making. You'll want to discuss how the state or the district will use the findings to make changes in their program, maybe to reform the program, revise it, adapt it, broaden it, or even in some cases, reduce it if there are no strong beneficial findings.

A secondary purpose is to foster a longer-term partnership, so that joint work will go on. For example, one of our State/Local Evaluation projects includes the state of Michigan, Michigan State University and the University of Michigan, and during the grant, they decided that the partnership was so beneficial they have now created the Michigan Consortium for Education Research, which is the forum through which all three partners can generate more research ideas and obtain additional funding to carry them out.

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When you identify the education program or policy to be evaluated be sure that it is implemented by the state or local education agency. That means that the agency is responsible – this grant program does not support the evaluation of researcher programs or policies that that a state or district gives permission to try out in a few schools. We're talking about a program or a policy that the district or state has said, this is our policy, we're behind and we're funding it. We may contract out the work, or we may implement it ourselves, but we are responsible for its implementation. The program or policy is intended to improve student education outcomes. So while there may be important programs or policies for other purposes, e.g., to make the agency run more efficiently, unless you can connect the program or policy to student education outcomes, its evaluation doesn't fit underneath this grant topic.

Fourteen state and local awards have been made. And they address a wide range of programs and policies including the expansion of a statewide pre-kindergarten program, state-provided professional development for pre-kindergarten teachers, gifted education programs and

identification policies, dual language immersion programs, student retention policies, more rigorous high school curricula, high school exit exams, high school diagnostic testing for college readiness, and mentoring low-income students regarding college enrollment. IES does not have any priority areas regarding these programs or policies. What is important to us is that they are a high priority area for the state or the district agency, that a rigorous evaluation can be done, and that the results of the evaluation can be used by the agency for further decision-making.

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Expected products of the grants include the causal evidence of the impact of the program or policy that is being implemented by the state or local education agency, not only its overall impacts, but impacts on subgroups, be they subgroups of students, teachers, or schools.

Your findings may lead to revisions in the theory of change that's guiding this program or policy. In many cases, state and local programs or policies don't have as formal a theory of change as do programs or policies developed by researchers. But there still is an underlying logic to them regarding why they should work. And if this turns out to be different from what was originally conceived, it's important for other states and districts as well as the one involved to know about this.

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If a beneficial impact on students is found, then it is important to know what were the organizational supports, tools and procedures needed for the successful implementation of the core components of the program and policy. So, it's not enough to say this worked, but also need is to describe how it was implemented, so that others may implement it.

And if a beneficial impact is not found, a determination should be made whether or not future research would be useful to revise this program or policy or its implementation. So, for example, if weak implementation was found along with no beneficial impact, some of the research might be on how to improve implementation. On the other hand, if it appears that the underlying theory of change is incorrect, then the argument might be made this program or policy will not improve student outcomes and should not continue to be implemented.

Through the partnership nature of these projects, education agencies receive early results of the research and may seek to improve implementation of the program or policy and revise it. These projects not only evaluate programs and policies but also aid the state or the district in their work.

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Let's move on to the Project Narrative for the State/local Evaluation topic.

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We'll state with the Significance section where you want to discuss the importance of the education program or policy. First, you need to describe the program or policy, its components, the processes and materials to implement it (along with their availability), and discuss whether it's currently being implemented or will be implemented shortly. For programs to be soon implement, it is important to show that implementation is very likely, e.g., the legislation requiring it, the availability of funds to implement it, and any new bodies set up to implement it. In addition, you can discuss how it differs from existing practice and that this difference is great enough to expect an impact from it on students.

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You should explain how it is a program or policy being implemented by an SEA or LEA. You should discuss the target population and sites, who are the end users of the program or policy, and how they are to carry it out.

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You should lay out the theory of change behind the program or policy. The theory of change may not be as detailed as it might be for researcher-developed interventions, but it should be detailed enough to show any intermediate outcomes in the process and how they lead to the final student outcomes.

You'll want to give an argument for the rationale for why it's important to test the program or policy. There are several different ones that come to mind. For example, it might be everyone is using this program or policy, but nobody really knows if it works or not. Or, it might be, everybody's using something else, but it seems that this program or policy could work as well or better. Or it may be, well, this was looked at in the past, but things have changed. We now have either a better way to test it, or the actual program or policy has changed enough that it really should be tested again.

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Let's go on to the Partnership section.

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In this section, you are discussing who's in the partnership and why: the research institution, the education agency, any other members, why are they involved, what's their common interest, how did they come together to propose this project, do they have any past or ongoing collaborations, and if so, any results from them, and what is the management structure for the project.

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Next you should describe your partnership development plan. How are decisions going to be made by your partnership? These decisions include the original research direction to the ongoing research process, capacity building, dissemination, and thinking about future research. What is

the education agency's capacity to participate and use education research, therefore, what type of capacity building will occur during the project? Taking part in the evaluation, understanding the research design and the evidence provided from this design will be important capacity-building activities for many districts. Some agencies may be far enough along that they themselves want to build their own research capacity further, and you may have some direct training of agency personnel or they may play larger roles in the evaluation project.

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Next we'll move to the Research Plan section.

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State your research questions and hypotheses. The slide shows a long list from the RFA of what you should cover and you should address all of these. These are the types of things the peer reviewers look closely at. Define your sample and your population and how the sampling procedure will allow inferences to the population. Describe your strategies to increase participation and reduce attrition, as these are major threats to your research design. Describe your setting. Address the generalizability of your study.

If you are familiar with Goal 3: Efficacy and Replication from the Education Research Grants Program (84.305A), this section will be familiar to you as it has been rewritten to be more similar to Goal 3.

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You should discuss your research design and the rationale choosing this design. You want to be able to draw causal inference from your research design to address overall impacts and impacts for specific subgroups. Address the internal validity and external validity of the design. If there are weaknesses in your design, discuss them and how they will influence your interpretation of findings. Be sure to describe how you will test the equivalence of treatment and control groups at baseline, even if you're doing an experiment as you may have unfortunate randomization. You'll want to include checks for any biases that could come out of attrition, be it overall attrition or differential attrition.

By doing the above, you are addressing whether your design will meet the What Works Clearinghouse evidence standards. This is important because all of our funded evaluations are automatically submitted to the WWC for evaluation. It's much easier to ensure that you are meeting the standards before implementing the design than trying to do so afterwards.

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The preferred design is the randomized control trial. Discuss your unit of randomization and justify the choice. Be very clear about your process for randomization and how to maintain its integrity. In several state and local projects it has turned out to be a problem and we suggest that you build in time for researchers to work with the education agency personnel implementing the

program or policy to describe the design, the importance of maintaining its integrity, and how to do so.

RCTs may take different forms and there are different design challenges with each. For example, when randomization is done across an entire population there may be students/teachers/schools that don't want to be involved in the treatment intervention so treatment fidelity is a major concern.

Conversely, if you're doing an RCT with volunteers, the comparison group is often not satisfied because they will not receive the treatment they wanted immediately and some may withdraw, not take part in some of the data collection, and/or seek a similar treatment from another source. For example, when using lotteries, students who do not win may drop out of the study or their parents may send them to private schools or schools outside the district where it can be very difficult to follow them leading to differential attrition.

Staggered rollout designs attempt to address this attrition problem by randomly assign units to treatment and control groups with the control group to receive the treatment in the near future. This design is seen as fair especially when the district cannot afford to provide the treatment at one time. However, problems occur depending on how long the control group remains under the control condition and how long the intervention is expected to require before it shows an impact on student outcomes. Often, the control group only serves for a year before receiving the treatment. And if the treatment requires several years before full implementation or full impact on students is expected to take place, then a one year comparison may not be long enough to find an impact.

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If you can't do an RCT, it's important to discuss why and then discuss an alternative design that minimizes selection bias or can model selection bias.

Some of the State/Local Evaluation projects use regression discontinuity designs. The What Works Clearinghouse does have pilot standards of evidence for RD designs.

So, for example, a project in Oregon examines a reading program for which students were selected based on their reading scores from the previous year. The project is examining the impact of the program on students who scored just below the cutoff point in reading scores used to select students versus those who scored just above. A project methodologist went into the schools and described to them what an RD design is, and why it's so important to assign students solely by their scores. The project also allowed a small percent of students to be assigned by the school so that the teachers and principals could have role in selecting students without affecting the integrity of the design (these students were not used in the project's analysis).

You may propose other well-designed quasi-experimental designs, for example, a comparative interrupted time series design. However, typical matching designs that use only commonly available variables such as gender, race, ethnicity, free reduced lunch are often not considered

strong enough by the peer reviewers, because they're not seen as being able to control for the unobserved factors underlying the selection into the treatment or the comparison group.

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You'll want to detail your power analysis. Adequate power avoids the issue that if you don't find a statistically significant result, it wasn't because your sample size was too small. Some of our reviewers will recalculate your power as a check. So you want to include all the parameters you use and the assumptions behind them. The review panel is concerned if one of the key reviewers says they cannot replicate the power calculation or that the calculation is incorrect. You'll want to have a power analysis for your main impact analysis and also any confirmatory subgroup analyses/

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Describe your outcome measures including the student education outcome measures. You should include student education outcomes that are of high interest to states, districts, and schools, e.g., standardized test scores, grades, promotion rates, retention rates, graduation rates, discipline referrals, special education placements, college enrollment, and completion. You can also include researcher-developed measures, but these should not be the primary outcome measures. You want to use measures that the agency is using to make its decisions. You should discuss the measures' reliability, validity, and appropriateness. If the intervention is expected to impact student education outcomes through intermediate outcomes (e.g., by changing instruction), you'll want to include measures of those intermediate outcomes. Your theory of change should show how the intervention directly affects your student outcomes and/or indirectly affects student outcomes through intermediate outcomes.

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Describe any moderators and mediators you'll be looking at. In most cases, the sample sizes are not large enough to include large numbers of moderators and usually your design is not set up to do confirmatory analysis of mediators. So you may want to pick a small number of moderators based on theory and/or past empirical work. For mediators, you may include exploratory analyses.

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Discuss your plan for examining the fidelity of implementation. Detail the measures you have and how they capture the core components of the program and policy and any known psychometric properties. Describe how you will carry out the fidelity of implementation study, and look at fidelity of both the treatment and comparisons group.

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Discuss how the fidelity data will be analyzed and will contribute to overall evaluation. Note if you will include fidelity data in one of your impact analyses. Fidelity data is often of high

interest to the education agency and in State/Local Evaluation projects you are encouraged to give feedback on fidelity to the agency. If you find weak fidelity in Year 1, it is important to inform the state or the district. With low fidelity, the evaluation is likely to not show any student impacts but the result will not be able to distinguish whether that finding is because of low fidelity or because the intervention does not work. In response, the state or the district can work to increase fidelity. If they are successful, your evaluation design may change to focus on later cohorts that receive the intervention with higher fidelity.

For State/Local Evaluation projects that rely solely on secondary data analysis of historical data, you may not be able to do a full fidelity of implementation study. You should try to identify some data and analyses that will give greater confidence that the program or policy you intend to evaluate was well implemented.

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In addition, you should examine comparison group practice - who is in your comparison group, how they differ from the treatment group, and what they receive in place of the treatment. It is important to show a strong contrast between the treatment and control groups; otherwise, if no impact is found we don't know if that was because the intervention did not work or if the comparison group was receiving something similar to the intervention.

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Detail your analysis plan. Under State/Local Evaluations, analysis usually entails a combination of both qualitative and quantitative work. Make clear how your analyses are going to answer your research questions, and that these can be answered from the design you're proposing. For your quantitative analyses, describe the models you'll be estimating, provide them in equation form and explaining the variables to be included along with the coefficients of interest and the software you'll use to actually estimate the model. Similarly for qualitative data, discuss how you'll index, summarize, and interpret the data. Discuss how your quantitative and qualitative analyses will support one another. Note whether they are to answer different questions or are to be incorporated together to address some of the same questions?

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Describe your cost analysis in order to document the financial costs of the program or policy you're studying and its implementation. The cost analysis is to give other states and districts an idea of the funds they would need to implement the program or policy. You can propose to do a cost effectiveness or cost-benefit analysis, but that's not required.

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You should discuss your plan for disseminating results. You should identify all the audiences you intend to reach, and how you would disseminate the results to them. It's very important that the research institution and the education partner, agency partner meet regularly to discuss the findings as they come in. For example, on State/Local Evaluation project holds a summer

institute to which each district and each school sends a team where they discuss the overall results and the district and school results and plan for the next school year using those results.

As your findings will be causal, they will be of high interest to other education agencies, school personnel, and policy makers. So you should discuss how the results will be disseminated to these groups.

Dissemination to the research community should be described. And describe dissemination to the general public, if the results may be of broad interest.

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In the project narrative, there are two other sections, the Personnel section and the Resources section. The following discussion of these sections will be appropriate for both the Continuous Improvement topic and the State/Local Evaluation topic.

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You are required to have a PI from both the research institution and the education agency. These should be identified in the Personnel section. One of them will have to be identified as the Principal Investigator/Project Director. This person will be from the organization that directly receives the grant and will be responsible for oversight of the grant and reporting to the Institute. Any other PIs will be referred to as Co-PIs. Remember that the PI from the research institution must have substantive knowledge in the education program or policy being evaluated and/or methodological expertise in the research design being used. And the PI from the education agency must have decision-making authority over the program or policy being evaluated.

As you write the Personnel section, think about all the work you're promising to do. Then identify each person responsible for each piece of work, their expertise or experience in doing that work, and their time on the project to do that work. Descriptions of each person do not have to be long. You can write a short paragraph stating, for example, that this person is an expert in survey methodology as shown by their work on these grants and these papers; that they are responsible for the teacher survey in the project which includes these activities; and they're on the grant for 10 percent of their time a year, which is enough time to oversee the survey.

It's actually unhelpful when people put in these large personnel descriptions that include information not relevant to the proposed work. Reviewers have to wade through the extra information and you're using up space that might be better used for other sections. If the reviewers want additional personnel information, they will turn to the CVs.

You should describe the PI's experience in managing grants of this size and type. State/Local Evaluations are often large grants with many districts and schools taking part. Management experience is a major concern and may influence your choice of which institution should directly receive the grant and provide the Principal Investigator/Project Director.

The objectivity of the evaluation is a key concern. You don't want the program developers or distributors to be carryout the actual evaluation (they may continue to implement the program or policy). The people randomizing schools, collecting the outcome data, analyzing the data, should be different from those who have developed or distributed the program or policy.

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The Resources section describes the institutional resources needed for this project to succeed, who is holding them, which partners have them, and how they are going to be used. This includes resources from both partner institutions. As noted early, the research institution and the education agency must submit a joint Letter of Agreement (placed in Appendix D) describing their roles and responsibilities in the project.

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If individual schools are taking part in the evaluation, it's a much stronger application if schools provide Letters of Agreement as well. The peer reviewers have worked in districts and states before, and they know there's a difference between when a district agrees to a Continuous Improvement project or an evaluation project, including the use of surveys, interviews, and classroom observations, and what happens when the actual schools are approached to take part. So the more school-level agreement you can show for the project, the stronger will be your application.

If you're going to analyze secondary data, and most of these projects do use secondary data from the district or the state, it's important that the office or the organization that holds those data document their willingness to provide it. We know that some states will not directly say you can obtain the data. They may say, we will consider your request for data once you get this grant. And so you should provide that type of letter. But the more certain you can show that the data holder is willing to share the data, the stronger your application will be seen.

If school staff are taking part in some way, e.g., through surveys and observations, it's important to discuss how their cooperation will be obtained. You might include such activities as information sessions for school staff on the purpose and importance of the evaluation, the use of teacher and/or school-level incentives, partnering with staff or community groups as ways to increase staff participation.

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There are a few other sections of the application I'd like to cover.

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Appendix A changed this year. It is now solely for your responses to reviewer comments if you're doing a resubmission. If you're putting in a new grant application, you don't need to include Appendix A. However, if you are doing a resubmission, it's very important that you respond to all the reviewers' comments. You can argue that you think your application has

changed to make some of the comments no longer relevant, but you should at least address all comments, make it clear that you read the comments, considered them and responded to them. This is one of the key questions peer review panels asked the primary reviewers. They will say, how did they respond to our comments last year, or two years ago? And if the answer is that the comments were well address, the review panel is appreciative. And if the answer is they didn't respond well at all, the panel is concerned.

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Appendix B, which has the 15-page limit, is where you can put figures, charts and tables. If you have a lot of information that could be put into table form, you might take it out of the Project Narrative, put it here, and reference it in the Project Narrative. It is useful to put a project timeline in Appendix B. Also, you may put measures that will be used in your research (e.g., assessments, survey or observation instruments, interview protocols), here as well. Placing such measures in Appendix B gives the panel more confidence that you have something to start with that they can review rather than them having to trust that you will have good instruments. Do not include any narrative text in Appendix B – if included it is often deleted. So if you need to discuss a chart or measure, do that in the Project Narrative and reference the actual chart or measure in Appendix B.

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Appendix C, which has a 10-page limit, is where you have examples of materials from the program, policy, or approach you're going to be adapting or evaluating. For example, if you are examining a new curriculum or assessment, you can include it in this Appendix. The difference between Appendix B and Appendix C is Appendix B includes measures that you're using to carry out your research while Appendix C includes, measures are being implemented as part of the program or approach.

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Appendix D is where you put in the Letters of Agreement. There's no page limit. It includes the joint Letter of Agreement from the partner organization, and letters from other organizations taking part. These letters should be very clear that everyone knows what their role in the partnership is and what their commitments are. You may have letters from consultants or schools taking part, and letters from those people holding the data.

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There is a separate section for your budget and your budget narrative (which describes the expenditures in your budget). If you will have subawards, you'll include a budget and narrative for each of these. For Continuous Improvement, the maximum award is \$2.5 million, and the maximum project length is four years. For State/Local Evaluation, the maximum award is \$5 million, and the maximum project length is five years.

You don't need to request the maximums. We have State/Local Evaluation projects with budgets under \$1 million, and they have done useful research. Your budget request should link well with the work proposed.

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In regards to the deadline: please submit your application before 4:30 and 00 seconds on August 7th, 2014, by D.C. time. The application will be marked late if it is submitted after 4:30:00, and will not be accepted for review. We ask that you submit several days before the deadline. The server gets very busy on the submission date.

If you didn't submit a Letter of Intent, you may still submit an application. If you'd like to receive feedback from James or myself, you can email us a description of your research project.

The application package, which you use to submit your application, has been posted, so you can complete and submit it whenever you are ready.

Your project can start anytime between July 1st and September 1st, 2015. Please think about the best start date. July 1st may not be the best date, e.g., the personnel from the education agency partner may be on vacation, graduate students or postdocs may not be available.

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This slide lists some information sources: the websites for the Request for Applications, and the application package. If you contact James or me, we may also bring in other program officers. For example, if you propose to look at a policy in early childhood, I may bring in our program officer who does early childhood because of her expertise in the area.

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The Standards and Review Office does both a compliance screening (does it meet the format requirements) and a responsive screening (does it meet the grant program and topic requirements) of your application. Applications that pass through these screenings are assigned to a review panel. Two to three reviewers are assigned to each application, one will be a methods person and one will know the substantive area. The most competitive proposals will then go through the full panel.

You are writing for both experts and generalists, because your initial reviewers should be fairly expert. The panel will contain more generalist to your research issue, but there will probably be an expert in every procedure you propose to use. The panel then provides a score for each of the five sections of the Project Narrative and they'll also provide an overall score.

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You'll sign up for an account on the applicant notification system and receive an e-mail telling you that the status of your application and its reviews have been posted on the notification

system. If you're not granted an award, you should know that most of our grants do go to resubmissions. So you should consider resubmitting and talking to us about your resubmission.

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This slide shows our website, and James and my e-mail addresses. Feel free to contact us. Now we'll take some questions.

James Benson:

So the question is, can Continuous Improvement grant funds be applied for software development to implement improvements in the targeted educational approach. And yes, they can, because grant funds can be used to support adaptation and revision of the approach.

Allen Ruby:

Somebody else asked when will awards be announced? Formally, the Institute announces awards by July 1, 2015. Applicants will know earlier than that but we can't give you a set time as it varies from year to year.

James Benson:

There is a question whether Appendix A is needed if the application is not a resubmission. And the answer to that is no, that Appendix A is not needed if you are submitting a new application.

Allen Ruby:

Someone has asked, will a recording of the webinar be posted? There won't be a recording. The slides and a transcript will be posted. The slides will go up quickly but the transcript takes a little bit more time.

James Benson:

So there's a question here regarding the Continuous Improvement program. Can the developers serve as the research institution if the developer has the research capability to conduct scientifically valid research? I think that they could, but where I think that that could be an issue is if that be the review panel could see that as something that would count against the significance of the research, because there's likely to be bias in terms of the developers' orientation to the findings from the research. But I don't think that it's something that's disallowed out of hand.

Allen Ruby:

So another question is, can the developer be the prime institution if they are in partnership with a research institution? The answer is yes but you'll need to set clear roles to maintain objectivity in the research.

Another question is whether it is highly unlikely for a researcher that has never been awarded a grant to be awarded one, even though she has worked on IES-funded studies before, but not as PI or co-PI? It is possible to become a PI on an IES grant without having been a PI or Co-PI before. This depends partly on your previous research experience and the size/complexity of the grant you are seeking as project management experience may be a concern of the reviewers.

James Benson:

If your research experience is limited, you might want to consider having an advisory panel with some experts on it, or you might want to consider having an expert Co-PI or consultant with a lot of experience with the issue or topic or program that you're going to be examining.

James Benson:

So, this is a Continuous Improvement question, and it asks, for the Continuous Improvement topic, can you clarify what you mean by saying you not want to study a continuous improvement strategy? We do not want the primary focus of the project to be assessing a continuous improvement strategy. We want the project to be focused on adapting and refining an educational approach using a continuous improvement strategy. The project may learn something about the continuous improvement strategy used, and that is a useful secondary outcome of the project, but the primary outcome concerns the success of the improvement of the educational strategy.

Allen Ruby:

There are different schools of thought on how to do continuous improvement. And the purpose of this grant program is not to try to determine which of those schools is correct though individual projects may provide information that will contribute to the debate.

James Benson:

A question as to can you elaborate on education outcomes for college students and adults in remedial and developmental classes versus those in regular classes? For students in regular classes, the education outcomes include access to, persistence in and progression through, and completion of the course of study (be it a certificate or a degree). For students in developmental classes, these same outcomes apply. But also you can examine achievement in reading, writing, English language proficiency and mathematics.

Allen Ruby:

A question on whether more than one LEA participate as a partner in a project, and would all LEA PAs cosign the joint letter? And both answers are yes. You can have more than one LEA: if these are LEAs that share some similarities and interest in the education issue, they can take part, and if so, they should all be signing on because they're all part of the partnership program. You just want to make sure you're not spreading the project too thin – these are intensive projects often requiring a great deal of data collection at the school level. There's a trade-off. It may be more significant to have more LEAs, but you're spread thinner with more LEAs and may not be able to do the intensive data collection needed in each one.

There are no more questions. Please email us any additional ones. We appreciate you taking part today and look forward to working with you.

[end of transcript]