Evaluation of State Education Programs and Policies

Allen Ruby:
Hi, everyone, I'm Allen Ruby, and thank you for taking the time this afternoon to attend this webinar on the Evaluation of State Education Programs and Policies CFDA 84.305E. In today's talk, we're going to just spend a moment or two on IES and its mission, and then we'll go straight into the grant competition 84.305E. We'll look at its general requirements and purpose. We'll talk about the project narrative, which is the substantive part of your grant application, and then a little bit on some of the other sections of the application and then we'll talk about preparing and submitting your application. Let's start with some background on IES. It has three purposes, one is to describe the condition, and progress of education in the United States, second is to identify education practices that improve academic achievement and student access to education opportunities and third to evaluate the effectiveness of Federal and other education programs.

This diagram is to give you an idea of how IES is organized: we have a director appointed by the president confirmed by the senate who is advised by the National Board for Education Sciences. Under the director are four centers: The National Center for Education Evaluation and Knowledge Utilization does large-scale evaluations as well as oversee such organizations at the What Works Clearinghouse, National Library of Education, and ERIC; The National Center for Education Statistics, which does nationally representative surveys and is currently completing a grant program for states to develop their on longitudinal data systems. And then there are the two grant making centers: The National Center for Education Research, which I belong to, and The National Center for Special Education Research. These are the research grant making centers where program officers like myself are available to work with grantees and applicants like yourselves. Under the 84.305E grant program, which can study both education and special education students, program officers from both centers may be involved in advising you on this grant program. Finally, under the director is the Standards and Review office which is responsible for the peer review process. And because it's a separate office with separate personnel who are not involved in the application process, that allows us, the program officers, to work more closely with you because we have no role in the peer review process.

The grant programs are designed to answer four questions: what works to improve student educational outcomes so once identified we can try to disseminate it. Secondly, to identify what isn't working so we can stop using it. Third, to identify what works for whom and where because we know many education interventions don't work for everyone, they work for specific populations be they schools, teachers or students. And finally, to try to understand why things work so we can develop underlying theory and build upon that to improve education.

Partnerships have become much more important at IES over the past few years for two purposes: One, we're trying to focus research on issues that are most concern to policy makers and practitioners and secondly we want to find ways to help education researchers communicate their findings to those who are supposed to use them. Through a partnership of researchers and practitioners, partnerships are one approach where we make sure that the questions researchers address are of interest to the practice community and also give the researchers a way to quickly communicate their findings to the folks who will are to use them.

I am going to move on now to the actual grant program, Evaluation of State Programs and Policies which we shorthand State Evaluation and the other shorthand is to call it by its CFDA number 84.305E. This grant program can be for new or established partnerships of a research institution and a state educational agency. It is to focus on a specific education policy or program implemented by a State Educational Agency for K-12 education and these policies or programs have to fall within one of three categories that we'll talk a little bit about later. And these programs or policies have to be directed toward improving student educational outcomes. We'll also talk about what we mean by those as well. So let me talk about three general requirements that you need to address in your application. One, is that you are focusing on student education outcomes. Second, you have to apply as a partnership between a research institution and a state education agency, (the slide mistakenly reads "association"). And three, you have to look at a program or policy that addresses K-12 education, and that falls within one of the three categories.

So let's start with the focus on student outcomes. IES purpose is to focus on improving student education outcomes as we mentioned earlier and therefore all research that we support has to address the education outcomes of students. These include academic outcomes of two types: measures of achievement such as tests or grades, and the other is progress through the education system such as course completion or high school graduation. In addition, you may look at social and behavioral competencies that support student success in school. These may be such things as social skills such as responsibility and cooperation; learning strategies such as self-regulation and goal setting; attitudes such as motivation and self-concept' and behaviors such as attendance or disciplinary actions. The student population you'll be looking at are K-12 students. You can focus on typically developing students, or students with disabilities or at risk for disability, or both. If you want to look at students at risk for disability, please look at the listed website where that term is defined. You can address any grade range within K-12 or the entire K-12 system. And the policy or program you'll be examining should be intended to improve K-12 student outcomes. Now, in some cases the policy or program you're looking at may also be intended to improve post-grade 12 outcomes, e.g., access to or success in postsecondary education. If so you can follow the students beyond high school to look at those outcomes. But the key point is the program or policy should be occurring when students are in K-12 – the impacts may occur during K-12 or afterward but the program or policy is occurring during K-12. So you should not propose to evaluate a program or policy that take place in the freshman year of college.

We can also look at student outcomes by K-12 and post-secondary. In K-12 we're looking at achievement outcomes in reading, writing, math and science progress through the education outcomes such as course and grade completion, retention, high school graduation and dropout. Also include are those social and behavioral competencies that are important to these achievement outcomes. In postsecondary we're looking at baccalaureate and sub-baccalaureate, primarily at progress through the system meaning readiness for, access to, persistence in, progress through and completion of postsecondary education. IES also allows applicants to look at success in gateway math and science courses or introductory English composition courses as well. And again, social and behavioral outcomes that students need to succeed in post-secondary education can be included.

The second general requirement is that your application must come from a partnership and that partnership, at a minimum, must include a research institution and a U.S. state educational agency. IES does not endorse any specific model of a research partnership but we do expect partnerships to go beyond two common forms of collaboration between these types of institutions: 1) a researcher may be hired by a state educational agency to perform a specific research service and provide the results to the agency or 2) a researcher with a specific research interest obtains permission from the agency to carryout activities within the agency's schools. We're looking for a partnership that jointly determines the research questions, the program or policy to evaluate, agrees on the research design, goes back and forth collaborates during the implementation of that research design, discusses the initial results, considers further research, and then discusses the final findings and their dissemination. So we're looking at a partnership from start to finish.

The PI from the research institution should have the ability to carry out this type of research proposed and the PI from the State Educational Agency must have decision-making authority over the program or policy being evaluated. This is to help insure that the PI from the State Educational Agency can comment on the research and say this is helpful or not helpful, these are the research questions we need addressed as well as to make sure research results go directly to the people involved in the decision making. Now that doesn't mean the SEA person has have to have overall control, it may be that the state superintendent has overall control but an assistant superintendent for curriculum or instruction or someone similar would have the direct authority over the program or policy you're looking to evaluate.

To further promote the idea of a partnership, we're asking for a joint letter of agreement from the state educational agency and the research institution, it's sort of a mini memorandum of understanding that shows that both the organizations agree on what is to be done in one letter that they both signed.

The definition of a research institution is very broad: any organization that has the ability and capacity to conduct scientifically valid research. It can be a university or a college. It can be a for-profit or not-for-profit research institution. It could be a voluntary organization as well as long as it can demonstrate that it can do this research.

State Educational Agency has a very specific definition – under the Elementary and Secondary Education Act it is the state agency primarily responsible for supervision of public elementary schools and secondary schools. The term State includes the 50 states, D.C., Puerto Rico and some of the outlying areas such as Guam and American Virgin Islands.

You may decide that you want multiple State Educational Agencies involved because they share a similar program or policy you want to evaluate or they may be using somewhat different policies or programs that it would be good to compare against. But you do not want so many education agencies involved that the partnership is not easy to maintain.

You may want to include local education agencies and this will be very important if the program or policy you're evaluating is under the control of a local agency. So you may have an overall state policy but local districts are allowed to do variations or to implement their own type or

variations of that policy. If you're going to be comparing local agency's policies it would probably be helpful to have local agency co-PIs on the project, someone responsible for that policy so that, again, they can inform you of the program or policy specifics and you can disseminate the findings through them.

You can have non-educational state and local agencies in the partnership. For example, if you're looking at a program to help foster children or children in juvenile justice system it may be important to include the social services agency or the juvenile justice agency. You may need data from them or you may need to understand the program that they're implementing. Also the findings will be important to them and so it will be helpful that they're involved perhaps at a Co-PI level, perhaps as a Co-I or as part of an advisory panel.

You may want to include more than one research institution - it may be that there's different research expertise that you need at another institution. You just need to make the case that they're making a unique contribution. You don't want to include too many institutions as management is much more difficult when you have multiple institutions involved, but you want to have the research expertise you need. You may include non-research organizations such as community organizations or state holder groups that are very interested in this issue and may provide data, expertise, or the ability to disseminate the work.

If you intend to involve schools, teachers and/or parents it will be helpful to describe how they will be involved and what role they will have in commenting on the research.

The third general requirement is that the programs or policy that you're going to propose to evaluate have to fall in to one of three categories. First, is college and career ready standards and assessments. Second is identification and improvement of the lowest performing schools or schools with the greatest achievement gaps. And third are teacher and principle evaluation and support programs.

When you propose an evaluation of a program or policy within one of these categories, you have to decide, do I want to evaluate an overall program or policy a state has implemented or components of the program, or both? Your decision can be based on two factors. First, can I get a strong research design? If the college and career standards have been spread across the entire state, every school is supposed to implement them, a strong research design may be difficult. However, there may be a component of the program that you can manipulate for a stronger design: say for an ongoing program to train teachers in the standards, you might be able to assign teachers or teachers may be included on a delayed basis so you can have a randomly assigned treatment and control group. The second concerns what is useful to the state education agency? What question do they need to answer for their future decisions? And their first question may be overall is this program working and secondarily is this teacher professional development working? So you have to balance the research design with what the agency needs in its future decision making to decide what program or policy you're going to look at. Or you may try to do a combination where you propose an overall evaluation that may have a weaker design and then you focus a stronger design on a component of that overall policy that will also give the agency useful information for making future policy decisions.

At this point, I would just ask you to step back and think about what is the program or policy I came into this webinar thinking I want to evaluate, and does it really fit within this grant program? If you're not prepared to look at student outcomes, then we're not the right funding agency for your research. Secondly, if you feel your partnership is really not strong enough to support a large rigorous evaluation over multiple years, you may say, well maybe, maybe I should hold off, maybe I should go under this other program IES supports; called the Research-Practitioner Partnerships (84.305H). And under this program, you spend two years building a partnership and doing some initial research on an issue of high interest to the agency and it can be a state or a local agency. And then you're expected to come back for a larger project, it may be an evaluation like the one we're talking about today. So that could be an alternative if you feel your partnership is not strong enough or you can't come to a decision soon enough by the deadline, this Research-Practitioner Partnership has a deadline for the application of August 6th and you can talk to me about that because I'm the program officer for that grant program as well.

And third, if you've just realized that the program policy you want to evaluate really doesn't fit well under one of the three categories we just discussed, that shouldn't stop you from applying to IES because we have other grant programs that support evaluations. We have the Education Research Grants Program and the Special Education Research Grants Program (84.305A and 84.324A). And under both of them, we have what is called Goal 3-Efficacy/Replication, which allows you to do an evaluation of a program or policy run by a state or a district. And that also has a deadline of August 6th and those grant programs will be discussed in the future basic overview webinar. Those two grant programs have multiple program officers based on different topics (such as reading and writing, math and science, postsecondary education you can talk to about your application.

Let me reiterate the purpose of the State Evaluation grant grogram. It's to promote joint evaluation research by a research institution and a state educational agency and it's to examine a program or policy of key importance to a state education agency and it's to directly contribute to that program or policy decision-making by the state education agency. In addition, there are supposed to be opportunities to develop the partnership through the evaluation and perhaps to foster some longer-term research by the partnership. But again, the point is to support an evaluation that's rigorously done and that has practitioner input throughout the research.

Under this grant program, you identify a program or policy being implemented by the State Educational Agency. It should be a high priority to that agency, it should improve student education outcomes, and it should fit under one of the three categories that we discussed earlier. You will then carry out the evaluation of that program or policy looking at its overall impacts and subgroup impacts (the partnership will identify what are the important subgroups).You're also expected to look at the fidelity of implementation of the program or policy. And you should have a cost analysis of this program or policy in order that other states that might be interested can have an idea of how much it would cost to implement.

This slide shows the expected products of the grant. First is causal evidence of the impact of this clearly specified program or policy. Again its overall impacts and impacts occurring under a variety of conditions and a variety of subgroups. We're expecting that there'll be a theory of change underlying this program or policy and that your evaluation will contribute to

understanding that theory of change and perhaps revising it as you determine how the policy actually impacts student education outcomes. If you find a beneficial impact on students, then it will be very important to document what were the tools and supports and procedures used to get implementation of the core components of the policy. This will be of use to other states that are interested in implementing it. On the other hand if you do not find a beneficial impact, it'll be important to determine do you think there's further research that would be useful in helping to revise this program or policy, or did you identify problems in the implementation that would need to be addressed before further implementation of the program or policy should be continued? And the idea here is that if it doesn't work and you can understand why it doesn't seem to work, then you could come back to IES for future development grant to improve it and then propose an evaluation of the revised program/policy.

Regarding implementation, we want early feedback on the fidelity of implementation provided to the State Educational Agency. If implementation is low we don't want you spending four or five years doing an evaluation when you know implementation is low. In such a case, we want the State agency to improve implementation for future years of the evaluation. Last, the project should provide the financial cost of the program or policy so that other agencies can get an idea of the costs.

I don't see any questions as yet on the first part of the webinar so I'm going to switch now to the project narrative. This is the substantive part of your application. There's a 25-page maximum to the Project Narrative and it contains five sections: significance, partnership, research plan, personnel, and resources. The peer reviewers score each of these sections and give the application an overall score.

So let's start with the significance section. Here you're going to make the argument why this is an important program or policy to evaluate. Your first step is clearly describing the program or policy because if the peer reviewers don't understand what is being implemented, they're not going to understand how it's supposed to impact student education outcome and why it's worth evaluating. So here, you lay out the components of the program or policy, what are the materials available to support implementation, evidence that it's either been implemented or it's going to start up implementation next year (for the latter you may want to talk about authority and funding streams to implement this) how it may differ from practice in the same location or different locations or historical practice if this has been ongoing in this state but not in other states, and how it falls within one of the three categories we discussed.

So I have a question that asks, "Why do you think policies and programs are implemented before they've been rigorously evaluated?" And I would say we've been running a state and local grant program since 2009 and we have found every grant we have given has been for a state or local policy that was implemented based on non-causal evidence. There may have been correlational evidence to support it or there may have been political support to implement it. But in every case, those programs have been implemented without a rigorous evaluation, even through a pilot study.

Someone else has asked "Can the budget include funding for SEA staff?" The answer is "yes". The funding is to support anyone taking part in the evaluation - if they're in the research institution or if they're in the State Educational Agency, or if there in another partner institution.

Someone else has asked, "Can we apply to this grant to implement a pilot program and then rigorously test it?" I would say this grant is to evaluate a program or policy that the state has implemented or will implement in the coming year. If the pilot study is part of the implementation, so let's say for example you were looking at the low performing schools topic area and you had an overall policy for identifying low performing schools and the SEA was starting a new program to actually provide support to those schools. If the state was starting that new program and the state said we would like to pilot this new program and use a strong design that would be acceptable for this grant program. If the research institution is coming in saying we have a program that we think will help low performing schools and we want to pilot it in this state that would not be acceptable because that's not a state implemented program. That's a program coming in from the research community to address a state policy. So it's really a distinction here, is this a state program/policy or is it coming in from the research institution? This grant is to support evaluations of state programs and policies.

Let's return to significance. You want to discuss how the program/policy is to be implemented by a state education agency. Who are the target population and sites and who the end users of this program or policy are and how they're going to carry it out? We're asking for a theory of change, which is how the program or policy is expected to affect change that ultimately leads to beneficial impacts on student outcomes. Theory of change is often for a state education program/policy than for researcher developed policies. So for example, an evaluation system for teachers may be aimed at changing teacher instruction or change the composition of teachers. -- So you would have these intermediate outcomes of teaching and teachers which are then to result in changes in student outcomes. You may want to provide a diagram or logic model to show the Theory of Change – how the program will work through the teachers to the students. And this theory is very helpful for identifying the specifics of your evaluation: e.g., what measures you would use. For example, you would want to look at teacher instructional measures and perhaps the new hires versus existing hires as well as looking at student outcomes.

Someone has asked, "Where do you include the theory of change?" And you can include that in project narrative or you can include it in appendix B. All text describing the theory of change has to be in the narrative as the appendices cannot be used for text.

This questions is getting a little ahead, but someone asked, "Can the program be ongoing but a randomized control trial as a test of a recombination of the existing program components?" And I would say yes. You could look at the overall program and you could look at the components, or the components in different combinations within the overall program to try to identify which components have the largest effect or which components have any effect on the student outcome.

Someone has asked, "If we're looking at a policy to change systems, is it appropriate for this funding stream to target the research question at levels above the student, such as the district or school board?" And so that's going to depend on what the program or policy is. If you have a program or policy that says, "Every district, you need to come up with a teacher evaluation

system and implement it." Then you're going to have to take a look at, did districts do that, what did they do, what did they implement? But IES is going to require you then to move down the next step to, what did they implement, so how'd it affect teachers? And then down the next step, to how did it affect students and student outcome? So you may say, "my state has 150 districts, are you asking me to evaluate 150 programs?" What you can do is pick a smaller number of programs that maybe represent different types of evaluation systems that would be very interesting, everybody in the state would be very interested to see how they compare against each other so you can limit the districts examined but provide results that the whole state might be interested in."

That covers the significance section so let's go on to the partnership section. Here you start off with a description of who are the partners and why we've included them. The minimum partnership of the research institution and the state educational agency, other members of the partnership, why they're all interested in this topic, what will they learn from this evaluation, how will they use it? It is helpful to talk about the process through which you came together and developed the research questions. That's a good way to show that there's a partnership that started from the beginning and both sides had equal roles in setting the research agenda. If you've had ongoing collaborations together, it's good to note those. But if you do note those, it's important to show are they the same people. X University may have worked with Y State Educational Agency for 10 years but the peer reviewers say, that's nice but are these the same folks who are involved in that or they really starting kind of a new partnership of new people. I don't want to the impression that you're at a major advantage with an existing partnership versus a new partnership, many of our past grants in this program have been new partnerships and what they've done in their application is show that both sides agree to the research questions, both sides are willing to work together on it and that be the research design will answer the questions that the agency is interested in. It is helpful to provide information on the management structure and the procedures, how the partners will work together, keep the project on track, ensure the quality of research. Another issue that comes up in the peer review is, the data -- there's going to be data generated here, where is it kept, how is it shared between the partners and outside the partners should be considered ahead of time. The peer reviewers are concerned that the state agency maintains control of its own data and that it provides access for other to use it. So there's an interest in knowing that the project will benefit the education agency, which is the primary focus of this grant, but also will it contribute to the literature and to future research as a secondary purpose of the grant as well.

The application should include a partnership development plan, which is to look at how will this project increase the state agency's ability to participate and use research? IES expects that the joint work that's going to be done in this project from developing research questions to implementing primary data collection to reviewing research findings and proposing further analysis to consider the final findings and dissemination will help build the State Educational Agency's research capacity. There also may be other areas the agency is interested in developing and this will differ by agency. Some agencies are very advanced in their research capacity and they would like specific training or capacity building activities that the research institution is able to provide. Other agencies have lower capacity and they want to understand the research design, what the results mean, and how to apply them.

IES is not asking that an agency will become able to do its own research (though an agency can propose increasing its capacity to do research if it wants). What you should do under this section is lay out how the education agency expects to develop and to increase its ability to take part in and use education research and discuss what the project will do to build that capacity.

Turning to the research plan, I'm going to walk through a set of issues to be discussed. This is one of the larger sections. State the research questions and hypotheses, then describe the sample and setting, what population is this program or policy supposed to address and therefore how you're sample and sampling procedures will allow inferences to that population, what are some of your inclusion and exclusion rules? If you're in a state with a large English learners population, excluding them from your sample may raise reviewer concerns because they're a large part of your population. So you may want to consider how to keep them in your sample which includes considering the expertise on your team and the measures to be used. Also consider if you intend to keep students with disabilities in your sample, and, if so, how you will do so. Discuss the strategies to be used to increase participation or reduce attrition. Maintaining the sample will be very important to having a strong research design its generalizability.,

Someone has asked, "Can LEAs within the state be chosen by convenience?" You might choose them by convenience, but also for the specific program or policy they're implementing. And if you choose them by convenience, you'll probably want to give some idea of how representative they are of the state. Also, if you choose them by convenience, remember this work is to support state agency decision making. You'd have to say these LEAs are important enough to the state that they would base decision making on them for these reasons

Someone has asked, "Can the State Educational Agency definition be expanded because they're interested in work being implemented by the California commission on teacher credentialing?" No, the State Educational Agency definition can't be expanded. You would have to have the California Department of Education as a partner but you could also have this commission on teacher credentialing as another partner.

Let's look at the research design. We are trying to get causal inference from your design regarding the program or policy you're looking at. So you're going to be discussing the threats to internal validity. You're going to describe and justify the counterfactual. You're going to want to look at the degree of equivalence of the treatment and comparison group at baseline even if you're doing a RCT. You're going to want to think about bias that may occur from attrition be it overall or differential. And you're going to want to meet the WWC evidence standards with or without reservations. IES-funded evaluations are automatically submitted to the WWC for the evaluation of the quality of the evidence provided by their design and its implementation so if you're not familiar with these evidence standards it probably would be a good idea to look at them and the website is given in the request for application. The preferred design is the randomized control trial and you should note unit of randomization and justify your choice. You want to describe the process for random assignment and maintaining its integrity. It has turned out from past state and local evaluations that it's very important not only to describe the process for random assignment but to actually work with the practitioners on maintaining its integrity. And I'll give you an example, there was an evaluation of a program that was done by lottery assignments and so the researchers gave the lists of the lottery winners and losers to the

practitioners to notify the families of the students. However, the practitioners were under a deadline for filling the slots for the lottery program and meeting that deadline was their priority. So when they couldn't get in touch with the lottery winners, they moved right on to the control group parents and assigned them to the treatment. As you can imagine this was not expected by the researchers and they were forced to include a second cohort of students from the next year. And they went in and discussed with the practitioners who were responsible for making those phone calls the importance of maintaining the integrity of the random assignment integrity so that the second cohort was correctly selected. So, we would argue that you don't only work at the higher levels of policy makers in a state or a district agency, you should also work with the folks who are actually going to be making the actual assignments of the students involved in that process.

There are multiple approaches to doing RCTs. Each has its own potential issues. If you're randomly assigning the entire population we often run into resistance from schools or teachers who aren't interested in the program or policy and so we'll get lower fidelity implementation in them when they are assigned to the treatment. If you assign volunteers, you will often get higher fidelity but it may be difficult to keep the control group happy. They may -- if they're not receiving anything, go out to try to find something similar to what the treatment group is receiving. In an evaluation of teacher literacy PD the control teachers received PD on another subject so the control group did not feel ignored. Another approach is to offer the volunteer control group sort of a delayed implementation and we call that a staggered role out, which I'll get to in a moment. Lotteries are often seen as fair when there are too limited resources to provide the treatment to all interested. However the lottery losers may go somewhere else to find a similar program and we lost them from the study. They may go to a private school or out of the district/state so we can't follow them anymore and we get differentiated attrition which can bias our resluts.

I mentioned the staggered role out, -- if we give some group of districts or schools or teachers the treatment early, and hold off for a year or two before giving the control group the treatments, we can have a short time period in between to use them as a comparison group. And here what we need to think about is will the treatment actually have an impact in that short amount of time. Some programs and policies take two or three years to get rolled out to high enough implementation where we'd expect them to have an impact. If our comparison group is becoming a treatment group within a year, there may not be enough time to actually see the true impact of the program.

Another approach is to give variations of the program or policy and look at the difference between those variations as to the impact on students. Everybody's getting something. The concern here is whether the variation is important enough to evaluate. Are we getting results t important enough to a state to make a decision on the program or policy and its overall importance?

So each of the multiple ways to do an RCT has its own strengths and weaknesses and their their relevance will really depend on the program or policy you're looking at and the ability of the State Educational Agency to set up a design that can look at either the overall impact of it or to look at one of its component.

If you can't do an RCT, you can justify why and then propose an alternative to minimize or model the selection bias. So typically, these have included regression discontinuity designs. when you're assigning a schools or districts based on some continuous assignment variable. Here of course you want to make sure that the assignment variable hasn't been manipulated.

You may also want to consider other well-designed quasi-experimental designs. We have funded grants using comparative interrupted time series designs. We do caution on the matching designs, e.g., propensity score matching that only use typically available variables. The peer reviewers often to do not consider these strong enough because you're not modeling the selection into the program or policy and there may be some selection bias that you can't control for.

In quasi-experimental designs, it's also important to work with the education agency to understand the rules for assignment. For example, we had a project in Oregon where regression discontinuity was used. Students were being assigned to a literacy program based on their test scores and the methodologist went out to the districts to give talks on what an RDD is, why this selection is so important that you don't just pick students you think will benefit but really rely on the test score. And to help out there they also gave a small percentage of slots where students could be sent to the treatment program based on teacher and principle choice where they thought a student really would benefit regardless of their test score and those students were not included in the study. The comparison group was changed a bit but integrity of the research design was maintained.

Power is a very important issue for the peer reviewers. We really want to avoid the issue that the reason why you don't find a statistically significant result is because your sample size was just too small. That's a very unhelpful finding at the end of a multimillion-dollar evaluation that's lasted four or five years. You should describe the power analysis in detail - lay out the method you used to calculate power or the minimum detectable effect size including all your assumptions, parameters, and equations because some of the reviewers will check your power calculations. For any causal analyses you're going to, you should calculate the power. So you want to show the power for both the main analyses and any important subgroup analyses you should show the power.

You want to clearly describe your outcome measures and it's important to use measures that are seen as important to states, districts, schools, teachers, and students. You can also include researcher developed measures as well but these should not be the primary outcome measures. These may be important to understanding the theory of change or getting closer to what the policy or program is supposed to do to show that the policy or program is having some kind of impact. But if states are going to make decisions based on the outcomes, those outcomes have to be of high relevance to how the states -- these test scores, course passing rates, high school graduation, discipline referrals, special education placements, college enrollment or college progression.

You'll also want to include measures of intermediate outcomes. If you're changing instruction, you'll want to have some measure of future instruction. If you're changing school climate you'll want to have measures to look at that. And these measures should all link back to your theory of

change. It should be quite clear in your theory of change what the intermediate outcomes are and what the final student outcomes are and there should be measures that identify all these outcomes. So when you're thinking about your outcome measures, ask the question, will our state agency change policy based on these outcome measures? And if your answer is no, then talk to the agency again and the agency should say "here are the outcomes we feel are the most important and should be included in the study."

You may want to look at a small group of moderators to help explain differential impacts of intervention. Subgroups analyses are one type of moderator. These should be identified in your theory of change as well. And you'll want to talk about how you'll measure them in both the treatment and control groups. You may be doing exploratory analyses in some cases as your sample size may not be large enough or your design not appropriate to analyze the impacts of mediators or certain moderators.

At the start of this talk, I mentioned the importance of determining the fidelity of implementation of the program/policy early in the study in order to take action if it is found low and unlikely to impact student outcomes. It's important that you discuss how the fidelity data will be collected, analyzed, and contribute to the overall evaluation

You should discuss who is making up the comparison group and how you will measure what they receive in place of the treatment? This information can strengthen your findings. For example, in a study in Tennessee of Pre-K it turned out that half the control group was at home which created a strong treatment differential. On the other hand we supported an evaluation of social and character development programs which found that the while teachers in the comparison group weren't using the treatment commercial but were using more informal programs they had identified. Almost 70 percent of the control teachers reported they were using a similar type of program. The study found no overall impact on students but could not determine whether that was because the programs didn't work, or the program type had already been absorbed so widely that there was really no difference in what student received. So we really want you to look at comparison group practice early on to make sure there is a clear difference in treatment and control.

For your analysis plan, you should describe the model you'll be using for the quantitative analysis: including the equation form, explaining the variables to be included, what are the coefficients of interest, and describing the software you'll use to do the analysis. Sometimes we see models put in that don't answer the research question or can't be estimated with the data that you are collecting.

Regarding qualitative work, you should describe how and what you'll be gathering, summarizing and how you will interpret it. Two problems we often see are 1) a separation of qualitative work from the quantitative work and 2) an under description of the qualitative work. Just saying we're doing a survey or a case study or using focus groups is not enough – you need to discuss how that work is going to be carried out. Also, how will the qualitative work and quantitative work, work together? Is the qualitative work to support the quantitative work, to explain it, will it be jointly analyzed or separately analyzed?

Some other analysis issues that come up include addressing clustering of students in schools or in classrooms or schools clustered in districts. Also, how you will address missing data. Also remember that a cost analysis is required - you'll want to document the financial costs of the program and its implementation in enough detail for another state to use. We are not asking for a cost effectiveness evaluation or cost benefit analysis, but should you be interested in doing one that would be, that would be useful as well.

Let's turn to the personnel and resources sections. Under personnel, you want to identify all the key personnel on the project team. The reviewers should be able to identify who's doing what work, what are their qualifications for doing that work (both their expertise and experience), and are they on the project for enough time to actually do the work they're responsible for. Also note personnel who have worked in a partnership. Discuss the PI's have experience for managing a research grant of this size and complexity. If the best PI is only partially qualified to manage this project consider having have a more experienced Co-PI or an advisory panel with people who have done this type of work. The peer reviewers are always looking for is there someone the PI can go with questions to, to get advice to if they run into trouble. Also ensure the objectivity of the evaluation. There may be people involved in this project are responsible for implementing the program or policy. They may have a professional interest that the program/policy works and while they should be on the project because they have expertise in the policy or program, it will be important to try to keep them a bit separate from the actual evaluation. For example, they should not be involved in assignment or the analysis though they should be involved in commenting on the work being done because they have expertise.

Your resources section is to look at the institutional resources of the organizations involved in the partnership and how these resources will be used to build the partnership and carry out the evaluation. So the institutional capacity to manage a grant of this size, the resources available at the institutions, plans to acquire major resources that you don't have yet and the joint letter of agreement that I described before. IES does not have a recommendation for who should be the prime institution but suggests that if one or the other little experience with this type of grant, they may they let the other institution be the lead institution.

If schools or districts are taking part, it's important that there is some documentation that they are agreeing to take part. Now there's a time issue here, you can't get letters from 200 schools or something of that nature but there should at least be some sign that the districts are aware of this evaluation and are interested in supporting it and are interested in working with their schools. Separate letters of agreement can be provided in Appendix D. Similarly, if secondary data is being analyzed, there should be a clear letter from the organization that's responsible for this data saying this data can be used to support this project. Some states have a separate data agency that's responsible for the data and they should provide a letter of agreement of them saying "yes, if this project gets funded, we will provide the data in this manner so that it can be used and can support the project." If you're going to have high involvement of district and state staff, let's say they have to hold surveys, there'll be observes going into classrooms, teachers have to keep logs, there really should be a discussion of how their cooperation will be obtained. We don't want to get into a situation where the state agency promises something, but then the districts don't agree to be involved to that extent. If districts, schools, and teachers are spending time providing information that are to be used in evaluation that's outside their regularly paid time, they can get

paid for it. And if districts and school personnel are being taken away from their regular duties and need resources to do that, there can be incentives for them to do that as well.

Also, under the resources section you should discuss the resources you will have in place to disseminate the results. These projects are to be rigorous evaluations and the findings should be very valuable to the state, to other states, and to the field of education research. IES is very interested in both findings of a beneficial impact from these programs and policies or lack of impacts from these. So you will want to discuss how the partnership is set up so that there will be resources to disseminate the results. What is your capacity to disseminate the results? What audiences are you going to target?

The State Educational Agency partner is going to get results on an ongoing basis but you may need to spread the results throughout the agency down to the school and teacher level, to the student and parent level. How will that be done? Other agencies we are hopeful will be interested in results as well. How will you reach them? How will you reach policy makers at the state level? At the federal level? And to other practitioners across the country? Also how will you inform out to the research community -- it can go through your typical professional conferences and journal papers but there may be other approaches you want to use such as webinars and workshops as well. And how will this get out to the public? We've had projects that do webinars for parents and students so that the results can go out and they've actually gotten a fairly good response because these are issues of such interest to families.

I'm going to go on to some of the other sections of the application you'll want to think about. Appendix A is if you're resubmitting an application from another IES grant program. For example, we did run the evaluation of state and local grant program last year and some of those, which did not get funded, were addressing K-12 state educational policies that would fit here. And those people are allowed to resubmit but they will have reviewer comments and they can use up to three pages to discuss how they responded to those reviewer comments.

Appendix B is where you can provide additional figures, charts, and tables that supplement your project narrative. It's very helpful for peer reviewers to see a timeline here, because then they can understand very quickly what you'll be doing and when you'll be doing it. You may have measures you're going to use that you want to show examples of. If you're going to do a survey, this is the place to put some of the survey items even if they are draft items. If you're going to do observations or interviews, you may want to include the protocols you'll be using. If you're going to give a researcher developed tests, you may want to show a portion of it here so the peer reviewers can determine are these instruments your using really well linked to your theory of change to get the outcomes that your predicting will be affected by this program and policy. Do not include narrative text in your appendages. Only figures, charts, and tables can be included here.

Appendix C can include examples of materials used in the program or policy. So if it's a teacher evaluation system, you might want to show an observation checklist that principals use when they evaluate a teacher to show it. Or you might want to include the rating scale that teachers receive and what the implications of the different ratings mean here. The difference between Appendix B and Appendix C is that Appendix B is for matjeirals you're going to use in the

evaluation while Appendix C is examples of materials that are used in the program or policy that you are going to evaluate.

Appendix D has no page limit. It is to include the letters of agreement. First, the joint letter from the key partners, separate letters perhaps from other organizations that are involve, letters from consultants, districts, schools taking part, letters from the people who are in charge of the administrative data that you're going to be using. And these letters, should not be one paragraph letters saying "we're very excited by this project and we want to take part." These letters should be somewhat detailed saying "we understand this projects taking part and that our role in it will be this, this and this and we are prepared to do that role." So if we're a district, we may say "we will actively take part in the recruitment of schools, we will work with the schools on helping them to carry out these surveys within them" and the like. It should be very clear that everybody who's taking part knows what they're going to be held responsible for.

Then you'll submit a budget and budget narrative. Just a reminder that the maximum project length is five years. The maximum award will be $5 million. Again, you don't need to propose the maximum award. This grant program has had very good work done for less than half that amount of money. Your budget should link to the scope of the work. This year we also have another requirement that the maximum annual award can be a maximum of $1 million. So do not come in with a budget over $5 million. Do not come in with a budget that has more than $1 million a year. It's very likely you will not be considered responsive and you will not be accepted for peer review.

We have a question. "Is competitive preference given to partnerships that include a research university or an institution dedicated to research?" And I would again say no but I'm going to put a 'but' there. No, as long as your research institution can show it's capable of doing this research and supporting this type of research. So ask yourself, does my organization have the capacity and experience to do a five year multi-partner rigorous evaluation with a State Educational Agency partner? Do I have the people who are recognized as being able to do that type of work? If the answer is no, then we would recommend that you bring in another research institution partner because if you come in and you don't have that experience, you may bet lower scores on the personnel and the resources section,.

Someone asked, "Can there be letters of support from organizations who won't be designated as PIs but who will be involved in this process?" And the answer is yes. I'm sorry if I gave the impression that only organizations providing PIs should provide letters. If you have an organization that's going to be involved with say a community organization, that's going to be involved bringing in parents and students and into this process, certainly you should have a letter from them documenting their role and what they will be doing and then their agreement to do this.

Returning to the budget, aAlong with your budget, which comes in a special budget form known at the SF 424, you will provide a budget narrative that should describe every activity and person taking part in the process, what they'll be receiving, and what work they'll be doing. And that should be laid out in annual form. So your budget is going to lay out year-by-year and then a

total, and your budget narrative should also lay it out year by year as well. So it's very clear who's doing what work and where the money is being spent year-by-year and overall.

Here are important dates and deadlines. The application deadline is June 10, 2015, 4:30:00 PM. It's really important to meet that deadline. There is nothing so sad as to get a call from an authorized representative office saying we had trouble but we did get the application in until 4:31 and we just have to say I'm sorry for fairness sake we don't accept applications after 4:30:00. You can imagine the server gets crowded on that day and so we suggest submitting three or four days ahead of time. One, it's easier to do. Two, if you make a mistake and you get an error message; you have time to track down that error and determine what it is and fix it. If you try to do it on June 10, you just may not have time to determine the error. Three, if you forget to put in something like a letter from a data organization; you'll have time to upload a new application with that letter.

There is a question that asks, "Teacher workshops -- can teacher workshops be included under the grant?" This would depend on the purpose of the teacher workshop. If the teacher workshop is part of the program you are evaluating, then the answer is no. Grant funds are to be used for evaluation purposes only not for implementation of the program/policy. However, if you were doing a teacher workshop train teachers in a student survey they will give as part of the evaluation, then the answer is yes. Grant funds can be used to support evaluation activities.

Okay going back to the deadlines. So we've past the deadline for the letter of intent but that's requested not required. You can still apply if you didn't submit the letter of intent, however, I do ask that you email me a description of the project you're intending submit including who the partners are, what is the program/policy you want to evaluate, which one of those categories it falls under and information on the evaluation design. I can give you some feedback on how well your idea fits under this grant program and it helps the Standards and Review Office plan for the peer review process.

The application package is already posted and that's on www.grants.gov so you can download it. And the 84.305E Request for Applications walks you through the process of filling out that application package. .

Somebody has asked, "Can we propose to evaluate more than one category of ed. programs and policies?" The answer is yes, there's no limit. But then I would come back to you and say "can you, I mean, -- one, are they related in any way? If there not related, are they both of high importance in State Education Agency?" And then, are you spreading the evaluation too thin, i.e., can you evaluate the impact (overall and subgroup) of so many policies, can you check the fidelity of their implementation, and can you determine the comparison group practice. So you have to balance the greater significance of evaluating multiple programs/policies with the practicalities of doing so.

Grant award notification will take place at the latest by August 1st so you can start work August 1st. The idea here is that you could start up before the next school year.

This slide notes the other information sources: where you find the request for applications., abstracts of previous state and local education evaluation projects (search under the evaluation of state and local education programs and policies), and the application package.

Your application will undergo compliance screening regarding the format requirements such as type set size and the 25-page maximum for the narrative. Your application will also undergo responsiveness screening - does it meet all the program requirements for example, do you have a partnership with a State Educational Agency and a research institution and does your program or policy fall with one of the three categories. After meeting these two screenings, the application will be assigned to the review panel. You should be reviewed by two to three reviewers initially. At least one will be substantive knowledge in the area you're looking at. The other should have methodological expertise in the technique you're using. Based on their ratings, the most competitive proposals will then go to the full panel. So you are writing for two audiences. You're writing for the experts who will do the initial review and then you may be writing for panelists who are much more generalists as they may not know your exact program or policy. They'll know state and local programs and policies but they may, you know, they may be put on the panel because they're an expert in how do you reform low performing schools and your submitting application for teacher evaluation system and support. So you're going to want write for both generalists and experts – no jargon, few acronyms, and more details than an expert needs. Also, the panel contains multiple experts in relevant methodologies so if you propose to do something make sure you provide enough detail to show that you know how to do it. So you just don't want to tack on a survey or an interview series without going into a bit of detail on how they will be developed, implemented, and analyzed.

For applications that go to the full panel, your application will get a score for each of your sections, and then you'll get an overall score. You'll receive email notification that the applicant notification system has information on the status of your award and its reviews. The majority of our grants are awarded to resubmissions. So if you don't get an award the first time, take a close look at the reviews, talk to the program officer, and consider whether the application can be revised.

I'm going to end here. Please visit our funding site for more information and email me your questions. Thank you for staying for a full hour and half here today. Good-bye.

[end of transcript]