

IES Webinar - "Grant Writing Workshop"

Elizabeth Albro:

The purpose of the workshop is to provide some instruction and advice on writing a successful application to our research grant programs. Today's presentation is going to focus on our two primary research grant competitions: the Education Research Grants Program and the Special Education Research Grants Program. For those of you who aren't familiar with applying for federal funding, those numbers in the parenthesis are CFDA numbers and those numbers will become important when you actually get to the point where you need to upload your application, so just keep them in mind. Sometimes when we talk, I might refer to 305, which is the Education Research Grants Program, and Jackie might refer to the Special Ed Program; that's 324.

Okay. All right, so before we jump into too much text, I just want to give you my version of a slide that Janice Earle likes to share from the National Science Foundation that I think helps remind us all that grant writing is a process, that whenever you go in to this activity, you should realize that there is a multi-step process and that it is likely that it will require more than one submission to become successful. So, if we start in the upper left corner, you have an idea, then you spend a lot of time of the phone trying to get your team together, scribbling ideas, you're writing really quickly, then you sit down and you actually compose a narrative and compose a proposal that you intend to submit, then you're madly trying to get it in to the deadline, and I'm going to say multiple times on this call that you should not wait until the last day nor the last minute to submit. In fact, we recommend about two weeks ahead of time is a great time to submit; it gives you time to check and make sure everything is there. Then, if you have done everything right and you've gotten all your boxes checked, you get screened for compliance. If your application is compliant, it is sent forward for peer review. If you get a high enough score in your initial peer review, you'll get sent to the full peer review panel. Most applications that come in don't get a fundable recommendation the first time through and so then you cry --

[laughter]

-- and our program officers, we provide a lot of grief counseling, and so please know that we're here to assist as you're thinking about the resubmission process. You go through the cycle again, maybe a third time, and our goal, and your goal, is eventually to get high enough quality scores of scientific merit and for us to have available resources to fund those projects, so that your project will get funded. So, that's just the process for those of you who aren't familiar.

All right, so this is just an agenda. We're going to start out giving you a little bit of an overview to the Institute. We're assuming that many of you are familiar with IES, but everyone may not be. We're going to start out with some tips and then we're going to move in to more specific requirements for the IES goal structure and the IES programs of research. So, who are we? The Institute of Education Sciences is the research arm of the U.S. Department of Education. We are non-partisan by law and so our efforts -- our research programs operate, in many ways, in parallel to the work of the department. We are charged, legislatively mandated, with providing rigorous and relevant evidence on which to ground education practice and policy, and to share

this information broadly. And we believe that by identifying what works, what does not work, and why, we will be able to improve educational outcomes for all students, particularly those at risk for failure.

So, this just gives you a framework to think through all the information that Jackie and I are going to share with you. In terms of the organizational structure of the Institute, now I could put up a really big organizational chart, which would have all of the offices within the Department of Education, but I just wanted to focus simply on the Institute structure. We have a director, John Q. Easton, who is our second director. He is one of two presidentially appointed positions in the Institute; everyone else is either a career civil servant or someone who is here on, sort of, like, a rotator basis. The director is advised by the National Board for Education Sciences, which includes 15 individuals from the practice community, the policy community, and the research community, and they provide advice to the director around the kinds of work that the Institute, as a whole, carries out. We have a separate office of standards and review, and the Standards and Review Office is responsible for carrying out the review of reports produced by the Institute as well as the review of grants.

And then we have the four centers: National Center for Education Statistics, National Center for Education Evaluation and Regional Assistance, which we will not be talking about today, and then the two research centers which is what we will talk about today. I'm assuming everyone on the phone has been to our webpage because that's how you signed up. You know that that's where all the information is about our grants, and all of our requests for applications are, in fact, live, so if you go to this page now you'll actually be able to click on all those hyperlinks and get to the Request for Applications for all of our competitions.

For those of you who have applied to the Institute of Education Sciences before, to either the Education Research Grants Program or to the Special Education Research Grants Program, I wanted to highlight for you changes in the Requests for Applications. Every year we make some adjustments trying always to improve the RFA. A couple of things that you should note: the first is that there is revised formatting, which we hope will assist you in terms of highlighting what must be present in your application in order for it to be considered compliant and sent forward for peer review. So, do pay attention to those bolded words that say that this is required; they really are. We've also spent some time identifying research gaps in the Education Research Grants Program RFA and research considerations in the Special Education Research Grants Program under each of the topics.

So, that's a good place to start. You should note, however, that these are not priorities, so they are not meant to limit the kinds and types and foci of applications that come in. You are required to have a dissemination plan, and we'll talk further about what that means. You should, also, look carefully at the appendices because the lettering for the appendices has shifted and there have been some changes in terms of what types of information should go in which appendices. From my perspective, I actually think one of the best changes that we made is we've incorporated the submission guide in to each RFA; this means that there is only one document that you need as you're preparing the narrative and accompanying application content. Information is provided in the submission guide section of the RFA about how you fill in the application forms when you download them from grants.gov. So, if you haven't looked at that

section of the RFA, I would encourage you to do so; it makes clear the various pieces and how they all fit together. And last, but by no means least, we've included a glossary of important terms, so that's just if you have questions about what we mean by some of our terms.

All right, so, our two primary research grants programs, as I said, are the Education Research Grants Program and the Special Education Research Grants Program. Within these grant programs, we have organized it by research topics, that is, what is the focus of your research in terms of the content of your research, and also research goals, so what are the types of research questions that you hope to answer if you were to receive funding. All right, now I'm going to turn it over to Jackie.

Jacquelyn Buckley:

So, I am going to give you some brief grant writing tips up front, and we'll elaborate on some of these as we move through the presentation in later sections, but feel free if you have any particular questions to ask now or know that we will go in to some of these with greater detail later in the presentation.

All right, so in thinking about submitting an application to IES, what is it that you really need to do? First, you need to be able to sell your research idea. Why is this an important idea? Why is this important research that should be funded by IES? And, importantly, you need to be able to promote yourself as the best person to do it; you have the skills, the knowledge, you have a fabulous team put together who has a unique ability to conduct the research that you are asking to conduct. So, how do you do that? How do you sell that idea? How do you sell yourself? You really have to demonstrate that you know what the problem is and that you have a way to address it that maybe hasn't been done before, that's unique, that is a new take on it, but that you have this great idea and you have the team to do it.

When I work with applicants in reviewing application drafts, we can review anywhere from full drafts, or a two, three page prospectus, whatever would be helpful for you; as program officers we can try and help you -- shepherd you through the process. And, one thing that I stress with folks is that opening paragraph of your grant application is critical. So, if it takes me until page six to understand what it is that you're proposing to do, that's a problem. You're going to lose reviewers from the get-go if they're confused after reading that first page, or even the first paragraph. So, that opening paragraph really needs to set the scene for the reader. Identify for them why this is important, what's the significance of the work that is to be done, and what are you going to do? Are you going to develop something or test something? Are you developing a measure? Really use the opening paragraph to organize the information for the rest of the application, and so it should be really clear for the reviewers what you are planning on doing and how you plan on doing it. You can lose readers right off the bat with a poor opening paragraph. [unintelligible] It influences how they read the rest of your application and it's not good if they're really confused from the beginning.

Jacquelyn Buckley:

Okay. The statement of purpose is, again, an important piece of your application. Your statement should be short and attention getting, so think back to basic writing, so that you have attention-grabbing sentences, and it becomes clear, from the beginning, that this is really an important topic. And it should have your problem statement and then your contribution to solving it. What's the problem, make it attention-getting, and how you plan on solving it. I think a really important tip is to be able to give that statement of purpose to someone not in your field and have them read it and they say, "Oh, wow. This looks like a really important thing that should be done and I see how you're going to do it." So, researchers, other researchers, friends, family members, we say your grandmother should be able to read it and understand it and see its relevance, which is not as easy as you'd think. You have to know a lot about what it is you want to do before you can describe it distinctly, and so, again is stressing the critical importance of that opening section, your statement of purpose to be clear for reviewers. The theory of change is something you may have heard a lot about and something that is required in IES grants and I think causes a lot of angst for applicants --

[laughter]

-- and understanding what a theory of change is, what it should look like. Hopefully the revisions in the request for applications this year will help, as Liz had pointed out, we highlighted requirements and recommendations, and we have a somewhat extensive section on the theory of change, with an example -- simple, but an example theory of change model. We'll go in to theory of change in a little bit more detail later in the presentation, but essentially, a theory of change really needs to be the roadmap for your project narrative.

So, reviewers should understand why what you are proposing to do should be potentially linked to student outcomes; why would we expect that what it is that you're developing, you're testing, et cetera, would potentially improve outcomes for students? And it needs to -- your theory of change really does provide that roadmap, so what you talk about in the significance section as being important; there should be direct ties to what it is that you're developing, evaluating, testing, et cetera, which should then have direct ties to measures you're using, the analysis that you're doing, the questions you're asking. Your theory is that way to generate research questions, to link everything in your proposal back to that theory of change. If you say this component is important from theory, then it should show up in you actual program, your intervention, et cetera.

And the theory of change is not static; we recognize that. It does evolve over time and it may be, by the end of a grant, you have modified that theory of change based on what you learned from your grant. And I want to note that other fields and other scholars use different terms; people talk about logic models, logical framework, theory of change. When we talk about theory of change, we're talking about something very similar to what you may be familiar with in other fields.

So, again, in your research plan everything should be tied back to that theory of change and you need to specify exactly what it is you're exploring, creating, validating, testing, and then you also need to specify how you do those things. So, what are those pieces that you're going to be exploring or creating? How you're going to measure it. What will you measure and how will

you measure it? With whom and where? And then think about thresholds; what effect size should you expect? When should you be collecting data? A timeline we recommend as being really important, it really helps reviewers understand that you're going to be able to do everything that you say you're going to do in the context of the grant period, and a timeline is really helpful for folks to be able to evaluate that.

And, as I say, we'd like to think we're helpful as program officers. We are here to work with you. When Liz had put up the organizational structure of IES, the Standards and Review Office, you saw as a separate arm or a separate branch, if you will, of IES, and so there is a firewall between the review process and the program office where we sit, and that frees us up to be able to work with you. We don't organize the review meetings, we have no influence over that review process, and so we're able to work with applicants as much or as little as you wish, and from responding to, "Hey, I have this idea, does this make sense? Would this fit one of the topics," all the way up to reading a full grant application, given enough time, to providing feedback for you any step along the way. And we have a lot of experience sitting in on the review panels, even though we don't contribute, we have the experience of hearing reviewers talk about applications, so, those of us that have been around a while, have gone through the process many times with applicants, so we can at least provide you that feedback.

For example, here are some key things that we hear a lot about, say, development applications, make sure you address this, or any of those potential pitfalls we can help walk you through. And, as on the screen here, submitting to the correct competition or the topic, because sometimes that can apply to one or more topics or competitions; we can help walk you through that. And, then this can be a springboard for further discussion about your grant ideas.

Clarity of writing is another huge piece of writing a grant. – Good grantsmanship is a skill and it's different from a typical academic writing or other writing that you may have done. It really is a unique writing skill to have, and the clarity of writing is really important. We often hear complaints about the lack of clarity in grant applications from the reviewers. Things like the significance section is just too general, there is no linkage to what specifically it is that you are doing. So, the significance -- there's a general big picture significance, but then you also have to really hone in on the significance for your particular work. Lack of detail is a huge one, regarding the intervention itself; they don't understand it because there's not enough detail there to help them understand it. The development cycle for our goal 2 development grants, the practice of developing an intervention can be extensive and you need to be very clear as to that process. The data analysis plan is another place that we often hear complaints about; not enough detail for them to evaluate whether or not you're going to be able to conduct the analyses that you say you're going to conduct, and get quality data by the end of the grant.

The reviewers who sit in the review panel come from a variety of fields and backgrounds and areas of expertise, and so you really have to limit or not use jargon, or assume that folks are going to understand your topic or where you're coming from. You can't assume that just because, of course, they do research in education, they'll just understand it, I don't need to explain it, which is faulty thinking because you're going to have a variety of experience around that table reading your application and so you have to speak -- your application will have to speak to someone who may know nothing about your particular topic, and be able to be clear and

convincing for them. And, then, of course, there is general poor writing: grammar, awkward constructions. And, so, it's really important for all -- for the clarity of writing and for other reasons -- to have as many folks as you can who are willing to read your application and provide this kind of feedback around clarity and is it powerful, is it significant, does it have meaning for you.

We also have a variety of resources for researchers. Like I said, we're here to help you and so we want to provide the resources via personally through program officers or through other documents to be able to help you through this process. There are links for faculty and researchers on our website, which you have that first site there, has writing methodology resources and other resources. These webinars that we do, so you're doing the grant writing webinar; we do a series of webinars for folks on a variety of different topics on specific types of grants, so say development grants to just general processes, et cetera. We will put all of the webinars on the website and the transcript and the PowerPoint Will be available.

Elizabeth Albro:

So, let me just talk a little bit with you about general requirements that apply, actually, to both of our competitions or both of our centers. So, whatever proposal you put in to the Institute of Education Sciences, must address these five criteria. The first is that you must propose to measure student education outcomes; this is true even if you're proposing to do a teacher/professional development study or you're proposing to look at special education providers, or if you're proposing to look at developing teacher/leaders. So, student education outcomes are a requirement for every, every competition that we run.

Your work must also be relevant to education in the United States, so you should notice that, because it doesn't mean that you have to carry it out in the U.S., although the bulk of our work is funded and is happening in the U.S., but you must convince the reviewers that your work is relevant. You also must address authentic education settings. We do have some programs of research which have strong basic or foundational competent, where you're doing some work, potentially in a laboratory setting, but you cannot do work only in a laboratory setting, you absolutely must think about and test the intervention or whatever it is that you're developing or testing in an authentic education setting.

The other part of our two primary research competitions is that you must specify a single research topic and a single research goal, and we're going to talk a lot about that, going forward here. All right, so I'm not going to read through all this, Jackie and I wanted to make sure that you have all this information so that when you get off the phone, we know there's a lot of information that we go through; you have some of this handy, sort of, checklist, if you will. So, within the National Center for Education Research, so this is the 305A competition, the outcomes of interest cover the age spread from pre-kindergarten all the way up through adult outcomes. For pre-kindergarten, the focus for us is really on school readiness; for K12, we're really focused on outcomes that are associate with reading, writing, math, and science outcomes, as well as social skills, attitudes, and behaviors that support academic outcomes. In the postsecondary realm, we do support work with students in grade 13 to 16, which is not how I usually think of it, but --

[laughter]

-- in -- at the postsecondary level; and for projects looking at the postsecondary level, we're also interested in questions around access to, persistence in, progress through, and completion of postsecondary, so it's not simply can students actually do the academic things they need to do in order to succeed, but do they actually succeed in obtaining a degree -- getting into college and then obtaining a degree. You'll notice here that things like English language proficiency are of interest, as well. Adult education is -- we do work in the adult education arena and the focus here is really on skills in reading, writing, and mathematics; we don't have a focus in science education in our adult education portfolio, but again, that persistence in, progress through, and completion of adult ed. programs is important. I want to say one other thing about the postsecondary outcomes. Our postsecondary portfolio is really focused on students who are at risk for not succeeding in postsecondary education, and the bulk of the research that we support in postsecondary is really focused on students who might be in perhaps developmental or remedial programs, or who are in some of these 101 science courses or writing courses, courses where -- if students don't succeed in them then that puts them at risk for not completing college, so, we don't actually support all research in all areas of postsecondary education.

Jacquelyn Buckley:

And as you see from the slide, that NCER and the Special Education Research Center, we have some similar outcomes of interest. A couple notable differences is we fund research down to birth, so birth to age five, looking at developmental outcomes and school readiness. We're bounded by the Individuals Disabilities Education Act, so we allow for research on students receiving services through IDEA from birth through age 21. In many cases you can focus on student with a disability or who may be at risk for a disability. The bulk of our research, I would say, is in that K-to-12 or K to high school arena. We have a similar emphasis on achievement in the core academic context: behaviors that support learning. And we also will address functional outcomes that support education outcomes, transition to employment, independent living, postsecondary education, et cetera.

Elizabeth Albro:

All right, so, I added this slide, I don't normally have this slide in here, but it occurred to me that sometimes we're not sure that everyone reads the RFA who should read the RFA, so here are my thoughts about who should have read the RFA: you, of course, the proposed principal investigator and you should read it from the beginning to the end, - there are going to be sections of it you're going to focus more closely on, but I really think, particularly if you're not familiar with the Institute, it's actually very helpful to read through from beginning to end, it gives you a sense of -- you're aware that this particular project might fit and where, over the long-term, your series of projects might fit. Anyone who has a major conceptual role in the project, who is on your team, should read the RFA; so your co-P.I.s, your statistician and your methodologist, if you're working with a curriculum developer. The reason for that is that they're going to have different roles in terms of the activities that you are going to carry out, and it's incredibly important that their work is integrated in to your thinking and in to the proposal as it is written. I want to encourage your assigned sponsored projects officer to read the RFA, as well, so they clearly will know the stuff that's included toward the end, in terms of what goes in what form and what goes in what box in the form, but I think it's actually very helpful for the sponsored projects officer to also be familiar with the requirements that you're trying to meet in terms of

the substantive information you're putting in. And then, anyone else who's helping you prepare the application, so for example, if you have some graduate students who are working with you, who are helping you to develop your proposal, it's incredibly useful to have them also be familiar with the RFA. There's a lot of detail in that and the more people who are reading it, and if you're working together, I think that helps your application be even more -- even stronger.

Jacquelyn Buckley:

I agree with all of this, having your team members read the RFA, but also keep in mind, too, that if you have multiple people involved in writing of the application, going back to the clarity concerns raised earlier, and making sure that someone else can understand it. It's common, that happens with applications; you have multiple people actually writing different aspects of the application. You need to make sure that that is a clear and coherent writing style throughout the application because reviewers pick up on it instantly and they will say, "this section seemed like it was written by somebody else."

Elizabeth Albro:

Right.

Jacquelyn Buckley:

Just keep that in mind in thinking about putting together the application.

Elizabeth Albro:

Right, and your goal is to make the reviewers happy.

[laughter]

All right, so let me move in to the topics. Jackie and I are going to go back and forth a little bit because we're tag-teaming around the areas that we're most expert on here. So, let me talk with you about grant topics. So, most of you have a primary content area that you're really interested in and we have tried to construct our requests for applications in such a way that is relatively straightforward for individuals to identify which topic area is most relevant. You must indicate on your application itself which topic area -- which topic you are submitting your proposal to, which is really important because it has implications for the panel that your application will be reviewed by, and it also has implications because it will tell the reviewers which topic in the RFA they need to read and rate your application in relationship to. Be sure to put it on the application form, it's also incredibly useful if you repeat it at the top of your abstract and at the very beginning of your project narrative. Remember: your reviewers are reading lots of applications, all in close proximity to each other, and then they have to talk about them at the panel review meeting, so everything you can do to help them remember what your proposal is specifically doing, I think the easier it makes it for them.

So, what are the topics? We have laid them out here with the Education Research and Special Education Research topics next to one another so you can see that there's actually a fair amount of similarity; the differences really lie in who the participants are, what the characteristics are of those students. Our programs run from -- we support basic research in cognition and student learning, where you take work that's happening in basic cognitive sciences, where we know a lot

about human learning, but remarkably little of that work has actually been translated in to K-12, practices or testing with schools, so that topic allows you to do that. We have age-related programs focused on early learning or early intervention. We have our postsecondary program -- we have some programs focused on particular topic areas, such as, education technology, math, science, reading, and writing. We have programs focused on particular populations of interest; so, within the National Center for Education Research, we've got a program on English learners, where we're really interested in knowing what we can do to support English learners, and in special education, they have a topic focused on students on the autism spectrum. I'm trying to think if there are other ones.

Jacquelyn Buckley:

The Families topic may be a little bit different. Work on families could have been supported under a couple of different topics, but we really wanted to draw a focus to this work: so, how do you support families and family engagement in education for students with disabilities. And I do want to note here quickly too, that the autism spectrum disorder topic is the only disability-specific topic that you see, and so all of these topics are intentionally broad to allow a wide variety of research within each topic. The autism one is unique in that that particular topic area requires a comprehensive intervention that addresses multiple domains, so that would not fit within, say, just the reading, writing, or social and behavioral topic; if you are interested in research for students with autism and you're only interested in social skills, then that would fall under the social and behavioral outcomes topic. So, the autism topic is unique in that we require a focus on comprehensive interventions across multiple domains and that's why it's the only disability-focused topic; otherwise, all the other topics, you could address any disability category within that topic.

Elizabeth Albro:

So, within the social and behavioral area -- there are two topics: one in education research and one in special education research, and just so you know, so, we're interested in academic outcomes, but we also acknowledge and have for quite a few years been supporting research that looks at how do you change what's happening in the context, say, of a classroom around social and behavioral dynamics that are related to academic outcomes. And, I'm just going to do a shout-out for Jackie, here, Jackie is the program officer who oversees the social and behavioral outcomes to support learning within NCSER, so, if you're interested in that topic you should reach out to her.

One last thing I just want to call out, which is that we do have a program of research that looks at teachers, as well as a program that looks at improving education systems and at policies that surround education practice, as well. And so, if you're interested in through the policy system aspects of education, we do support work in that area, as well. All right, now, again, you guys are going to feel like some of this is repetitive, it is repetitive, it's intentional --

[laughter]

we are repeating information that we think is important that you should note. So, with the topics, again, remember: student education outcomes are required regardless of where you're trying to intervene, if it's at the systems level or if it's at the teacher level. The grade range -- so

the grade and age range that you can apply to actually varies by topic. And one of the reasons why you really should get to know your program officer really well is that your project might actually fit in more than one topic area. So for example, if you're a cognitive scientist and you want to do something around reading, it's possible that your project could be submitted under cognition and student learning or it could be submitted under reading and writing, and talking with a member of our staff can really help you think through what are the benefits to either one of those topics and where it is your proposed project fits best.

So, under A, here's our chart, we've tried to lay it out pretty cleanly. I actually think what's important to note is that there are only two topics that actually fit into these two different age levels. The bulk of our topics are focused on K-12, that's the largest investment that we make, but both cognition and student learning and education and technology have pre-kindergarten and K-12 as their primary foci. I do want to include a little asterisk here, which is that you can also do some limited work with students at the collegiate level in the cognition and student learning program, if you wanted to test out some measurement techniques, for example, but that would only be a very, very small part of your project and it would not actually be the primary focus of your study. If you want to do work in postsecondary and adult education that work should really be submitted to the postsec competition.

Jacquelyn Buckley:

And, then we have a similar chart for the special education topics. On the left we have the grade level so, again we do go down to infancy, so infants and toddlers -- you could do research on infants and toddlers obviously in the early learning topic, as well as a cognition and student learning or the technology topic. Again, most of the work we do in the K-12 arena. The transition outcomes is in K-12, but secondary only, and if you look at the transition topic, you can do some work in postsecondary settings if it is, say, a follow-on, you want to develop an intervention that starts in high school, but then follows kids to the postsecondary setting, or you want to do research with students in the postsecondary setting with the intention of informing the development or evaluation of a program in the high school setting. And so we don't have a postsecondary research topic like NCER, our focus is on the secondary setting --if you do anything in postsecondary for that transition outcomes topic, it has to be related back to the high school setting and improving what happens in high school to help students transition to postsecondary settings. And then NCSER also has this other layer of whether or not you have to address students with a disability or you can address students at risk for disability, as well. The majority of our topics let you do research on students with or at risk for a disability, but for some topics it has to be an identified disability only, such as the autism spectrum disorder topic.

Elizabeth Albro:

So then, when you're thinking about how do you identify your topics, here's some things you should consider: one is what's the literature that you're citing, so I'm going to stick with my cognitive science and reading example. If you're primarily drawing from the cognitive science literature, you're probably a good fit for the cognition topic; if you're drawing primarily from the reading literature, then you might want to look at reading. Again, think about your own expertise and the expertise of your team, that can really help you identify what's the best topic for you to apply to.

And, then, if your focus is on a specific population of students or teachers, you might really want to go to that program or topic, so for example, if what you really want to do is understand how to provide services or how to improve outcomes for English learners, then you should go to English learners. If, however, you want to develop a comprehensive reading and writing program and you anticipate that English learners will be a part of your sample, that probably would indicate that you should go to the reading and writing topic.

Again, new this year is the research gaps and considerations. This was an opportunity for us to sit down and look at the work that we have funded to date, look at the work that's going on in the field, and call out some things that are new in education, so for example, the Common Core State Standards are rolling out in different ways across the country and we believe that that provides some unique research opportunities. We just wanted to highlight to this field that we are interested in seeing projects around that. Did you want to say anything about special education for your research considerations?

Jacquelyn Buckley:

And, special education is similar, but we call it considerations just because we have some other, I guess, unique research tips, in that consideration section. For example, research with low-incidence populations can be challenging as far as recruitment, so we have some considerations for those interested in doing that type of work in particular topic.

Elizabeth Albro:

All right. So, now we're going to jump into the goals section. There's a lot of information in this section and I'm mindful of the time, so I'm going to try not to speed up, but

there's a lot of information, here, I just want to forewarn you. Again, like with the information that we included about the topic, you want to make sure that you include information about the goal and the topic in item 4b, you want to remind the reviewers that you're writing an application to this topic and this goal in the abstract and in the very first paragraph. The goal describes the type of research that you are proposing and every application has to hit that special 'x marks the spot,' right, so there's going to be a match between your topic and your goal and that's really where you're going in your application.

Again, program officers are here to help you. I think it's one of the most valuable resources that we can provide, is we're unbiased listeners. We just want to listen to your ideas, and we're going to say, "Okay, here's where we think you fit in the structure that we've laid out." So, what are the goals? I'm assuming that many of you are familiar with our goals, but if you're not, here we go. So, we have five research goals. Our first goal is exploration, which is the goal where a lot of the kinds of activities that will be proposed are around hypothesis generation. We have a goal focused on development and innovation, so this is for applicants who have a pretty good theoretical understanding of what it is they're trying to change; they have a good idea of what factors they want to change in the school environment, and they need money to figure out how to put all the pieces together and create an intervention that can be used in the classroom, that can be used with a school counselor, that can be implemented at the school level, and carry out a pilot test.

Then, we support efficacy and replication work, which is intended to answer the causal question: does this intervention work to improve outcomes in this specific area? It can be an intervention that you have developed or it can be an intervention that currently exists for which there is a need for additional evidence to be gathered. Effectiveness, similarly, is looking at the efficacy question, in that it's trying to answer that causal question, but effectiveness research is being carried out to try to improve the generalizability of the findings. So, efficacy studies are often done under relatively tightly controlled experimental conditions, whereas effectiveness studies are meant to understand what happens when you test it in typical practice.

And finally, we support work on measurement because none of the work in the prior four goals can happen if we don't have high quality, reliable, and valid measures, and in many of the areas where we support research, there is a real limitation in terms of current measures, and so we invite applicants to come in who want to develop measures.

All right, again, just a quick summary on this slide so you can see the range of number of years that you can seek funding, and the types of funding that's available. Our dollar amounts, here, are both direct and indirect costs, so the cost to the project team and the cost to the institution to support the work of the project team. And we'll go through these different types in going forward.

Now, I include this not only because we like pictures and we need to break up all the text, but also because I think it's important for applicants to recognize the distribution of the kinds of projects that we fund. As you can see, just about half of the work that we support is in the area of development. This doesn't mean that our reviewers are overwhelmingly excited about development and not about the other types of projects. What this really reflects is the distribution of applications that we receive. So, what we see is that about half of our proposals are development, about a quarter are efficacy, we get very few effectiveness studies, and then we get almost an equal number of measurement and exploration projects. And in NCSER, we're pretty similar.

So, and we have been pretty consistent over time and you see a little bit of fluctuation, but in many ways I think this really reflects the state of the field of education research more generally, which is that there's a lot of need for new development work, but we also have a substantial number of interventions that are out there for which we don't have strong causal evidence.

Jacquelyn Buckley:

I was going to say, what we're pleased to see is movement across the goals-- and the idea behind, I think, in part the goal structure is to move people through the goal structure, so if you have development grants you move next to an efficacy trial. We have now started to see that-- we've been around long enough now to start to see some of those folks who had development grants move on to efficacy grants to test what they developed.

Elizabeth Albro:

Exactly. Okay, so, requirements: pay attention to them.

[laughter]

They're there. We have also included a list of recommendations and the recommendations are aspects of your narrative that we encourage you strongly to incorporate into your project. Okay, so they're recommendations, they're not requirements, but they really will help you write a much better application.

Jacquelyn Buckley:

And they were developed in part from what we consistently heard from reviewers of what's missing, what they want to see, frustrations with applications, and conversations that we've had with applicants over the years. So, they really are recommendations, as Liz says, but it's going to make your application much stronger if you pay attention to those recommendations and incorporate those into your application.

Elizabeth Albro:

Exactly. And as we mentioned early on, all applications must now include a dissemination plan. –Note that the types of information that will be reasonable to disseminate vary as a function of the goal and the type of research that you are proposing. So, do pay attention not only to the requirements of the dissemination plan, but to be aware of the fact that the kinds of information you are going to disseminate will vary as a function of the type of application you're putting in. So, that's why information about dissemination plans is included under 'goals.'

We'll do a high level on the goals so that you all have a sense of what are some of the features of these projects, again, that reviewers really want to have additional information or have good clarity around. So, under exploration, remember you're trying to figure out whether –

Sorry, I'm going to stop just a minute. We just saw a question about the recommendations. The recommendations are in the request for applications, so if you look in the request for applications, under each goal, you'll see that there's a section that's labeled 'recommendations.' So, you should be able to find it in the RFA.

For exploration, right, you're trying to generate hypotheses about what could we change in order to improve these outcomes that are not looking the way we want them to look. So, something to remember is that the malleable factors that you are proposing must be under the control of the education system.?

So, because you are applying to the Institute of Education Sciences, we don't support research that focuses on how you change, for example, medical practice, or how do you change a typically inherent characteristic of a child, right? It's really something under the control of the education system. So, it could be a student characteristic, a behavior or a skill; it could be a teacher characteristic, right, what are they doing instructionally, what are the credentials they bring. It could, in fact, be something at the school level, it could be the size of the school, or the school climate, or the way in which the school's organized. Or, it could be different features of intervention, so you're trying to understand which features of these interventions are associated with improved outcomes, and then we proposed that we could change them going forward. The point here is that the key part of an exploration project is your malleable factors.

So, I have another question here, before I move on. “With regards to malleable factors, can an intervention aiming to support parent involvement or engagement be considered a malleable factor?” I think the short answer is yes. I do think that the parent involvement piece, the constraints are going to vary across topic, and across the RFAs, so for the National Center for Education Research clearly parent involvement can be incorporated, but it needs to be linked to some sort of school delivery. So, if you’re doing a literacy intervention and you have a parent book reading component to the intervention that’s integrated with school instruction, that’s okay, but it could not only be focused on parents outside of school.

Jacquelyn Buckley:

Whereas for special education, especially in that family topic, yes, absolutely. That’s the emphasis of that research topic, so yes, in NCSER it would be appropriate.

Elizabeth Albro:

And I think an engagement is absolutely something to be considered, across all topics as relevant.

For development and innovation: what are the key features that reviewers are really paying attention to around development? They want to see that you have an iterative development process, right, so it’s not enough to say, “I’m going to come in or I’m going to spend six months, I’m going to develop this intervention, I’m going to put it out in the schools and test it,” that’s insufficient. What reviewers really want to hear about is how are you going to take the information that you gleaned from that initial testing out and use it to then make modifications to improve through the intervention that you’re trying to develop. So there’s got to be this process of iteration.

Reviewers are really paying close attention to the theory of change across all applications, but particularly in development projects. So they really want to know what is motivating you to create this new intervention or this modified intervention and why do you think it’s going to change the outcomes. Why is it different from typical reading instruction?

You’re going to be expected to collect data on feasibility and usability and authentic education settings. This can trip up people who do most of their development work in a laboratory setting or maybe they’re working in a lab school and they’re working with kids and professors and they haven’t thought about whether in fact teachers working with kids who come from a much wider range of backgrounds can actually respond or can do this. So there’s got to be information on feasibility. Fidelity data should be collected as well. So is the intervention feasible for teachers to implement and then how faithfully can they actually implement it?

And finally, there is an aspect of the project where you are required to collect pilot data on the student outcomes. So there needs to be some test of the promise of the intervention in moving students in the direction that you want.

Remember, thought that development must be iterative.

For efficacy and replication, testing a causal question is a key piece. So one of the things about an efficacy project is that you've got to make it really clear to the reviewers what's the causal question that you're asking and make sure that the causal question that you're asking in fact matches up with your design and the outcomes that you're gathering. So for efficacy, you may have a causal question, but then if that's not well-aligned with your actual plan of research and the measures you're collecting that will deep-six a project immediately.

Elizabeth Albro:

You really need to sit down and make sure that all these pieces are aligned. Again, we recommended earlier that your methodologist and statistician be part of the team. This is one of the reasons for it.

Think about routine practice. What might you need to have in order to support it? Conflict of interest with the developer is actually something that you do need to consider. If you are a developer of an intervention that's going to be tested or if you're going to be working with a developer, there is going to be a need to build in some firewalls to make sure that there's no unintended bias. And then we don't require confirmatory mediator analyses, but we do recommend exploratory mediator analyses.

Effectiveness -- again, given that so few people apply --

I'm going to just hit the highlights here, which is that the reason so few people are able to apply to effectiveness is that it depends upon having two previous efficacy studies which support that intervention and we as a field are not quite at that place yet. Note the cost of implementation that the Institute will support is limited under effectiveness grants, and that we expect to support multiple effectiveness studies going forward.

And for measurement, again, I actually think this is one of the most important goals that we support. Know that you can do some work around assessment under other goals, but that should not be the primary focus of those projects. If what you need or intend to do is develop an assessment, then you need to come in under the measurement goal where your focus is really going to be the design, refinement, and validation of an assessment. You must include an assessment framework where you lay out some of the constructs that you're trying to measure and how you're intending to measure them and again, you need to link the assessment to student education outcomes.

So another section of the RFA I want to draw your attention to is a section called expected products. There we give you a sense of where we anticipate what you --are going to end up with at the end of a project. And sometimes that can be very useful in --terms of thinking about whether I have included all of the content that I need to include in my application or have I thought about all the pieces. So look for that section in the RFA.

All right. And now Jackie's going to start on the four sections of the project narrative.

Jacquelyn Buckley:

So when you are ready to get down to business and you're actually starting to write the application, there are four required sections -- and again, these are all laid out in the request for applications -- I think are pretty prescriptive in the RFA as far as what goes in different sections. But the four sections are significance, research plans, personnel, and resources and those are the four sections that you'll be scored on by your peer reviewers.

One thing that I should note with our applications versus maybe some other agency's is when reviewers score these score sections, they score them individually -- each peer reviewer scores them individually, each section gets a score, and then they provide an overall score of scientific merit. That overall score is not a mathematical computation of the individual section scores, and so what that overall score does is allow reviewers to weigh each section as they see fit. So each section is not weighted in any way for reviewers. But that overall score says, "Now that I've read and scored each of these sections, what is my overall rating of the scientific merit of this application?"

The requirements for the narrative vary by program topic and goal. So read those requirements really carefully. I can't stress enough about reading the RFA, which sounds so simple and elementary. However, you'd be surprised, but really read those requirements so you know what those requirements are, and that you address those requirements. The narrative is 25 pages single-spaced. There is information in the RFA regarding text size and spacing and things like that. The project narrative is supported by appendices, which again, are described in the RFA. But anything that you think is really critical for reviewers really should be in that 25 page project narrative. Sure, reviewers can flip back to the appendix to look something up, but if you want to make sure they actually read it, I would put it in the narrative and then use the appendix to just provide supporting material.

Elizabeth Albro:

And I'm going to just jump in right now because I think that other agencies don't actually require their reviewers to look at --appendices, but we actually encourage our reviewers to do so and you will find that reviewers will look to the appendices for additional information. So it is to your benefit to include additional information in the appendix.

Jacquelyn Buckley:

All right. So for the significance section, what really goes in there? That significance section describes your overall project, your research questions that you will answer, and the intervention to be developed or evaluated, or the measure that you're going to develop or validate. You really need to provide a compelling rationale for the project. Again, the theoretical justification for that theory of change, empirical justification, practical justification -- why is that so important a topic to address?

Again, don't assume that reviewers know the significance of your work or you --even if you think -- oh, it should be widely known-- don't assume that folks are going to know it. Don't quote back the RFA on just general importance of a topic. Like, we in the RFA -- we say things like the lack of reading proficiency of eighth and twelfth graders based on NAEP data. Don't cite that back as the reason to do your work, but think of specifics for your particular project. But do quote back the RFA if your project is addressed in your research gap identified in the

RFA, such as disproportionality and discipline and the social and behavioral topic of the impact of early childhood policy initiatives in the early learning topic.

Do keep problem areas in mind that come up with a significance section. One is the description or lack of description of malleable factors if you're doing goal one exploratory work or an intervention, whether developing or evaluating an intervention. So, again, getting back to that clarity in your application. Folks, reviewers often come away with being unclear of what an intervention actually is, and so it's hard to evaluate the research plan and the analysis, et cetera, if they are not even clear what that intervention is and what it looks like. So --maybe the intervention has multiple components and they're applied at different times, and so anything that you can do to help them be very clear as to what this intervention is -- graphics are always helpful if it's applicable to your particular project to communicate that information to reviewers.

Very often reviewers will say it's unclear how you plan to implement the intervention and so maybe they know what it is, but how does this function in the school, how is it implemented in the school, and how are you going to ensure fidelity? So if they don't understand how it's implemented, they're not going to be able to evaluate your plan to collect fidelity measures, et cetera.

The intervention is not shown to be strong enough to expect an impact. you're not clear enough as to how this intervention is actually going to lead to a change in knowledge or behavior of the students or teachers, that can be a problem for reviewers.

Another problem area is that you are really focused on actions and not content. So you talk about this fantastic professional development opportunity, 20 hours over 10 weeks, but you don't detail what was going on in individual sessions of this professional development program. Reviewers have a problem with that too.

Elizabeth Albro:
[affirmative]

Jacquelyn Buckley:

We come back to theory of change. Lots of questions and potential problem areas in theory of change. So when you put together a theory of change, think about if you're doing this -- goal-one for example -- why are malleable factors expected to be related to a student outcome? It should be very clear through your theory of change why addressing this particular factor could be related to improving the student outcomes.

For studies focused on developing or evaluating an intervention, discuss why the proposed intervention should improve outcomes versus current practice -- what is it about you and your intervention that's going to be so different from what is done every day in the classroom? We've done this before. How are you going to be different? Or we see many interventions to address this topic. Why is yours suddenly going to be that golden ticket to really improving outcomes for students? Thinking about assessments -- why an assessment or instrument will measure a specific construct. What is it about yours that's, again, going to be better and different from what is currently out there?

So when it's really well laid out, a theory of change makes clear what it is -- what is expected to happen and in what order. What is the mechanism to expect that change? The theory of change makes it easy for reviewers to understand the research plan, why you measure certain outcomes, why you include certain measures. So if you say in your theory of change that student self-regulation is important for these particular students and you have a component in your intervention that addresses student self-regulation, then you have measures that measure student self-regulation, and your analysis plan includes analysis of outcomes on student self-regulation. So whatever then your theory of change, make it easy for reviewers to track that through, again, your entire research plan. Graphics are always helpful -- again, anything that makes it simple for reviewers to understand and see what it is you're trying to do.

Elizabeth Albro:

So how does the intervention address the need and why it should work? What's the content? What does the kid need to know? Pedagogy. What does the teacher need to do? How is it going to be delivered? Is it going to be delivered by the teacher? Is it going to be delivered by an education technology system? Again, to really highlight for the reviewers what is different from this intervention from the counterfactual, right, from typical business as usual. And what are the key factors or core ingredients that are the most essential and distinctive to the intervention?

And what Jackie was saying about tracking it through the entire proposal is really critical. So the theory of change is something you should spend a lot of time on and then spend a lot of time on looking at how it organizes essentially the entire research narrative.

So we have some pictures here. This is in the RFA, so it should look familiar to you. But essentially you want to start on the left hand side with who are you trying to intervene with? Is it the students or is it the teachers you're intervening with? Who are you working with? What are the components of the intervention that are key or critical that you think make your intervention distinct from that is seen in typical classrooms? Then you want to hypothesize what are the underlying processes that are targeted by this intervention, which is information that you should have coming into this development project, for example. What are the intermediate outcomes? So if you have some researcher-developed outcome measures that are closely aligned with your -

Jacquelyn Buckley:
[affirmative]

Elizabeth Albro:

-- intervention, this is the place where you should model them. But -- and then you should also include what we fondly call distal student education outcomes sometimes, right? So if you're going to have a standardized measure of reading achievement or math achievement, then that would go in that box there.

Elizabeth Albro:

So we've got logic model graphics, system words of warning. People can get a little carried away with their theory of change models. Simplicity is beautiful in this context. You want to make sure it's coherent and complete but for the logic model, the graphic itself doesn't need to have everything in it. So you don't want to overwhelm the reader. Color -- don't use color as a key because applications are often printed in black and white and if they're printed in black and white, then all of your nice color coding is just not useful and then your reviewers get frustrated and, again, that's really not the goal. So here is an example of something not to do. This is not a helpful logic model or theory of change. So don't do it, [laughs].

I'm going to talk a little bit about the research plan section. So this is the next part. Now, I want to tell everyone that the research plan section -- so significance is really important, but the research plan section is incredibly important and it's incredibly important because this is the section where the reviewers are saying, "Okay, these people are asking for a million and a half dollars, 2 million, 3 million. I want to know what it is they're proposing to do and I want to know it in enough detail so I can evaluate" whether the resources they're asking for from the government are sufficient "or not to carry out" "this work." So this section is really important. So tell them what you're going to do. How are you going to answer your research question? How are you going to develop your intervention? How are you going to evaluate it? How are you going to develop or validate your assessment? And then recommendations that we mentioned earlier on that are included in the request for applications under each of the goal sections -- this is really, I think, where a lot of the really useful information is. So we have recommendations about there about what pieces you need to make sure to discuss in your application. Again, alignment is critical. A timeline can be remarkably important for laying out your research plan. Not only does it, again, provide you with a set of guidance around what's going to happen, it can also indicate if you've forgotten something or if you are proposing to do two things at the same time that just don't make any sense given the scope of work you're proposing. So, again, a timeline is something we highly recommend.

Jacquelyn Buckley:

But I think a kiss of death from some reviewers is a proposal that is ambitious -- thinking that you're trying to pack too much into, say, a three-year grant and that's, again, where I think that timeline is really helpful and to map it out that it can be done or once you do it you think, oh, I'm trying to bite off too much here --

Elizabeth Albro:

Right.

Elizabeth Albro:

And then you can sort of carve out a piece of it and put in a single application and save the rest of it.

Okay, so I've got two questions here. I'm going to take the second one first which says is the timeline limited to the grant year? The timeline should cover the project period you're asking for. So it should cover from the start of the grant to the end of the grant --

and it's going to depend upon how many years of funding you're requesting and it's going to vary as a function of goal. So exploration goals can range from two to four years. Efficacy goals are usually four years.

The second question: "Is it required to have a control group in an exploration study of a new teaching method you have developed?" So if the purpose of your project is to generate hypotheses around how this new teaching method is working, how it's correlated with different student outcomes, then you are not required to have a control group. If on the other hand your purpose is to test whether in fact this teaching method is working or not -- you want to answer that causal question, then you should propose an efficacy study and in that case, yes. You do need to have a control or a comparison group.

Okay. We'll continue to answer questions as they come in. Another piece for the research plan is to actually take the time to identify where you're working, who you're working with, and what are the characteristics of your sample. The reviewers are going to want to know things and I'm going to not go through this whole list here, but they are really going to want to make sure that you have attended to things like inclusion and exclusion and attrition. If you're doing secondary data analysis, make sure you talk about that for the data sets as well.

So in terms of specifying outcome measures, I want you to make sure you do in your application -- that you want to include definitions. I mean, you want to describe them well. You want to describe them for both proximal and distal outcomes. You want to make sure that the outcomes you're proposing are sensitive to the intervention. So sometimes what you are doing is if you're trying to change one very targeted malleable factor, it's actually going to be difficult to -- you won't be able to pick that up if you have these really broad measures. At the same time, you're also going to want to make sure you have measures that are of broad interest to educators. Let's see. You want to make sure whether you describe whether these measures are reliable and valid. Don't throw in measures because you think it would be nice to have them in there, right? So make sure that your measures are tightly linked to your research questions. And then when you're putting your research plan together, make sure you're thinking about multiple comparisons. This is something that reviewers are paying attention to and it's something that we should all be doing a better job at describing and specifying.

If you're proposing to collect data from qualitative research, and that is absolutely permissible, you do want to spend a -- not a substantial, but you want to spend the same amount of time talking about the measures that are emerging from qualitative research as from more typical standardized assessments. So make sure that your reviewers know: what are the items you're proposing to use if you're, say, going to do a survey, if you're going to do some observational work; how do these items that you're developing link back to constructs; what are the procedures for collecting and coding this data, so how are you going to make sure that the data is reliable; again, how are you going to have consent; and then how are you going to use these qualitatively-collected measures in analysis quantitative outcomes?

Again, I hope one of the things you're hearing is that this notion of alignment between your theory, your significance, your design of your studies, the measure you're proposing to use, analysis that you're proposing -- all of this is critical and good applications link it all together.

So for measurement projects, some issues that have come up are considerations of alternate forms -- making sure that you have thought through the need for horizontal equating. Also, if there is a need for vertical equating -- if you're measuring growth, make sure that that's actually articulated well in your proposal. Reviewers will also raise questions around test fairness. So again, you -- a couple of slides back, I talked about how important it was for you to describe the characteristics of your sample. That can actually become important when you're thinking about how you are going to measure whether your test is fair for students from different backgrounds. And again, this reminder that even if you're developing, say, a measure of teacher practice or teacher -- if what you're doing is developing a measure of teacher practice, you must validate those measures against student outcomes.

Oh, we got a question over the control group non-control criteria once more. So there -- I want to just step back here. So the control group non-control group criteria -- there's not a single answer to that question. It really depends upon what type of a project you are proposing. So if your question involves a causal question -- if it's a what works type of question, then you will need to include some sort of a comparison group in order to be able to answer that causal question, right? So the question is does this intervention work better than the comparison -- whatever the comparison intervention is?

You can see control groups in the pilot test for a development project or in an efficacy study or in an effectiveness study. There may be cases where you actually will see experimental design in exploration and measurement projects, but it's really going to depend upon what your particular research question is. If -- I'm just going to say if this something that you're concerned about and you're pulling your application together, this is another great place where working closely with a program officer can help you make sure that you're designing -- that your research plan and your research design actually maps back to the question you're asking. All right. I'm happy to try again.

[laughter]

So not only does your design depend upon your research question, but your analysis depends upon your design. So, again, it's really thinking through all these steps. So make sure that reviewers are really clear how the analysis that you are proposing to carry out answers your research question. So don't just say -- I'm going to do a hierarchical linear modeling analysis -- do an HLM because you think that that's the analysis that everybody wants to see if there's no need for you to do it. If it's an inappropriate technique to the research design that you've proposed, reviewers are going to call you on it.

Elizabeth Albro:

At the same time, don't simply say I'm going to do an ANOVA because that's what you know. So really think hard about how does your analysis answer your research question and if you have a statistician or a methodologist on your team, you want to integrate them in this conversation.

Again, if qualitative data is going to be part of your research project, be sure that you describe how you propose to analyze it and provide sufficient details so that a reviewer who's not an expert in qualitative data analysis can understand what you're doing. It's going to be insufficient to just give a label and say I'm going to do this. You need to actually describe what that is.

Okay, so here -- for those of you who are doing types of modeling techniques, it can actually be very useful for the reviewers to see the model. I want to say that this is particularly true for exploration projects that rely on secondary data, efficacy and effectiveness projects where you will more than likely be using some sort of a hierarchical linear modeling technique, and for measurement, right? So in measurement, a lot of assumptions are embedded in your models and you will have statisticians and methodologists who will -- are going to be reviewing your applications and they really like to see equations. So [laughs] please do include them and make sure that you've taken the time to make sure that that the model that's proposed is actually well-integrated with the entire proposal.

Make sure you address clustering because we do work in schools, kids are nested in classrooms, and classrooms are nested in schools and depending upon your level of random assignment if you're doing a random assignment study or if you're doing growth modeling, just make sure that all of that clustering is accounted for. Again, plan for missing data -- really important to think about at the beginning of a project as well as sensitivity tests.

Jacquelyn Buckley:

So the next section is the personnel section and I don't want folks to short change this. So obviously the significance is important and the research plan is important, but so is the personnel section. It does get its own separate score. And here is where -- again, thinking back to the beginning of the presentation, we said why are you qualified -- you and your team -- why are you qualified to do this work? It can be the best idea ever, but are you the right person to do it? And so you have to show the reviewers that yes, indeed, you are. You and your team have the collective expertise and experience and are the people to do the work that you're proposing. And show that every aspect of your project has a person with the expertise to do it. So the appropriate methodological expertise, the substantive person for all the issues addressed, and do not propose to hire a key person with X expertise. So if there is a particular area of expertise that's needed on your grant, all of those folks should be identified and CVs included so their qualifications can be evaluated.

And one aspect that some folks forget to think about is make sure that someone on your team has project management skills.

These are federal grants and so reviewers want to make sure that folks have the methodological, statistical expertise, the content expertise, as well as just the management expertise. Especially for some of the larger grants and especially if you're at multiple sites, the management piece can become really important.

Also important is to show that every aspect of the project has enough time from an expert. So don't put on that big name statistical person as a consultant for 2 percent time or something and

it's not clear how they're even going to help you if issues come up or did they even weigh in at all on the application? And so it's not just having a named person, but being clear that those folks are dedicated to the project, have enough time on the project to be able to help you with it, help you through it.

Elizabeth Albro:

And I'm going to just jump in here. There's a question here that says can you hire a statistician? Absolutely. you should in fact when you're building a team. A large portion of the costs for research grants are often personnel costs and you do want to think about what are the skills and strengths that you currently have and the members of your current teams and what are the skills that you're missing and try to fill in those holes so that you have a full team.

Jacquelyn Buckley:

We also ask that you provide the CVs for your key personnel but make sure that those CVs are specific to the project. And so some people have, you know, books that are CVs and so try and think about -- you only get four pages plus one page for other sources of support, so make sure that what is actually included in the CV is the work -- the experience that is directly relevant to this project as much as you can because reviewers will examine those and pick apart -- if you have a statistician on your project, they will -- and you are proposing a certain type of analysis, they will look at the CV of that statistician and say, "Well, they've never published anything in that area. Do they really know it?" And so as much as you can, orient those CVs to show that those people who you're saying have the expertise -- it's evident in the CVs.

Elizabeth Albro:

Yep. Absolutely.

Jacquelyn Buckley:

So -- if you are a senior researcher as a PI -- a couple of things you need to think about. Make sure that you can show that you have adequate time to be the PI. As a senior researcher, you may be involved in a variety of different activities and so make sure that you can show that you - - even though you have a lot going on, that you are going to be dedicated to this project.

And make sure all your credentials are clear. I think some of the more senior folks tend to think they don't need to explain as much about themselves because people will just know, and in some cases that's true, but keep in mind -- again, there is a wide variety on the panel of expertise and backgrounds and they may not know you. And so make sure that your credentials are very clear.

Junior researchers certainly can be PIs on IES grants and have been successful as PIs on IES grants, but a couple things that if you're a junior researcher that you really need to think about is showing, again, that you have the adequate expertise in this particular topic area or methodology not only to do the work that you're proposing but to manage a project. So think about what you've done in your prior lives. Maybe this work is a continuation of your graduate school research. You have a background, you have a track record in this particular area. If you served as project managers in graduate school on other projects at your university or early in your

career, you served on other federal grants in a project management role -- all of those things you really need to try and highlight to show you can do it.

Reviewers are more comfortable -- if you are a junior person, meaning you have not held the project or PI role in a federal grant, they are more comfortable if you have a senior person on your team so they know, all right, well, this person's new and promising, but look, they have this senior person who has a lot of expertise in this area, experience running federal grants, so I know if things start to go awry, which they sometimes do, they have a strong senior person that they can turn to for advice. They can be a co-PI, a co-I, could potentially be a consultant, have an advisory board of -- made up of more senior folks, but again, make sure that you have them on enough time on your project so that they can be taken seriously.

Jacquelyn Buckley:

And resources I think folks think of it as a throwaway section, but it is its own section and it's scored. And we really tried this year to highlight some of these things that you need to address in the resource section. It's not just the boiler plate that every person who submits from this university uses the same paragraph for resources.

There may be information there that is indeed important to convey, but then you need to show that all the institutions involved have the capacity to support the work and that they understand and agree to their roles. So what will each institution including schools that you're working with contribute to the project? And show a strong commitment of the schools of districts and alternatives in case of attrition. It happens, right? They agree to participate, but things happen and you lose schools or teachers or districts -- so to make sure that you have a backup plan. And if you've received a prior grant award for similar work, certainly describe the success of that work.

Jacquelyn Buckley:

Appendix C --

-- should back up the resources section

Jacquelyn Buckley:

Oh, the letters of agreement. So you can submit as many letters of support as needed for your particular project. Letters of agreement can be from research institutions, states, districts, schools, depending on the nature of your research. And before I came to IES, I didn't realize how much reviewers actually these read letters of agreement. And they want to know -- they want to be able to see in those letters that the partners understand their role in the project.

For example, if you are doing an efficacy grant and you have random assignment, they want to see in the letters whoever signed that letter is signing to the fact that I may be assigned to the intervention condition or I may not receive intervention in the control condition. They want to see something like that, that they are clearly understanding what it is that they are agreeing to. Time commitments are really clear.

And look at your letters collectively and do they show that you have access to all the necessary data to do the proposed work? Think about some of the secondary data analysis. Do you have access to that data set?

Elizabeth Albro:

Okay. We have a question here which talks about the appendix and says: "Can the appendix include CVs and other documents of expertise and are the appendices part of the 25 pages?" The appendices are in addition to the 25 page project narrative. So you have a 25 page project narrative and then there are, I think, five appendices that you can use depending upon the type of project you're putting in and the CVs are actually separate from the appendix. There's an area where you can upload bio-sketches (CVs).

Jacquelyn Buckley:

Right.

Elizabeth Albro:

So that's in addition to the project narrative and the appendix. There's another section where you can upload CVs. All right, just so -- so there's lots of room and you don't have to worry about that taking away from your space in the project area.

Jacquelyn Buckley:

We'll quickly go through budget --

Elizabeth Albro:

Okay.

Jacquelyn Buckley:

-- and I'll see if I'll have a lot of questions. So you are required to submit a budget and a budget narrative and it is helpful to really be clear on this budget and the budget narrative. It's for the overall project and for any sub-awards that you may have, and so reviewers will look at your budget to see if there is anything out of the ordinary I would say in your budget that would be of concern for IES and they may note that. There is no formal review of the budget. It doesn't factor in to your overall score of scientific merit, but reviewers do look at it. If you're really maybe heavy on personnel or you didn't budget for certain things that would be critical to carrying out your research project. They will note that and highlight that for IES staff to look at separate from the review of scientific merit. So it is important.

Elizabeth Albro:

It is important and we have someone who's wondering about the level of detail required for the budget and the letter of intent, which is coming up next week. There's actually no requirement for details in terms of budget for the letter of intent and I actually would not spend a lot of time worried about that at this point.

Jacquelyn Buckley:

[affirmative]

Elizabeth Albro:

We really are just interested in the content.

I do also want to say here that the integration of the submission guide into the RFA -- I actually think that the budget category is one of the places where this is really critical because it really helps you understand what parts of the budget you need to specify in the actual budget form that you upload and then to think about that as it's aligned with your project narrative. It makes you think about them all together.

Elizabeth Albro:

All right. So here's just a list of the appendices.

And just some things to note that are different. A -- if you are coming into the resubmission, A is now a separate appendix. That's the three pages you can include response to the viewers. B is the appendix where you should put figures, charts, tables to supplement the project narrative like, for example, the timeline or if you have some figures or charts from pilot research that you've done. C is the place to include examples of materials to be used in the intervention or the assessment. So if you have a scope and sequence for professional development or if you have a few items that you've developed, it'll help reviewers have a flavor of what you're proposing. D is unlimited in length -- the letters of agreement that Jackie just talked about. And E is a data management plan which is required for efficacy and effectiveness applications. And I'm sure people might have questions about that, but given our time, I'm going to encourage folks to reach out to either Jackie or myself and we can talk with you in more detail.

Dates and deadlines -- we're going to keep going until the end, but if folks need to drop off, I just want to thank you so much for joining us. Dates and deadlines -- August 7th, all applications are due. 4:30 P.M. and zero seconds.

Jacquelyn Buckley:

[laughs]

Elizabeth Albro:

People laugh at me whenever I give this talk.

They go, "What are you talking about?" In fact, the seconds do count -- and if you are one second late, your application will be considered late and will not be sent forward to review. So this is why I said early on please do not wait until the last day to upload your application. Please make sure -- I mean, give yourself at least a week -- preferably two because then you can go in and make sure that all of the right forms were uploaded, that you don't have an old project narrative or the wrong budget. These things happen and reviewers notice it and then you don't get evaluated on your revised project --

Jacquelyn Buckley:

-- click the right box --

Elizabeth Albro:

Exactly.

Jacquelyn Buckley:

-- or something's missing.

Elizabeth Albro:

Give yourself time.

And we know that, it feels like it's a short time and it is a short time, but do everything you can to submit as early as possible.

Please do submit a letter of intent. As you said, they're not binding. Letters of intent are not binding. They don't go forward to reviewers. They're really just for the program staff to review. They're also important for the peer review office to look at so they can figure out if they have the right expertise on our panel. And then you can propose a start date for your project anytime between July 1st and September 1st of next year.

All right. I'm sure this page looks familiar to you. If it doesn't, talk to your sponsor projects officer. Make sure that your institution is actually registered on Grants.gov. It takes several weeks to do this. This is something that you do not want to wait until the last minute to do. So do this, you know, today, tomorrow, early next week.

The application package will be available next week. Now, the application package is really just a set of forms that you need to fill in. All the content that you need to know in terms of what to include is included in the request for application, so you all should have that.

Jacquelyn Buckley:

So we just got a quick question about what's going to be released on June 5th. The Request for Applications includes all those requirements that we had talked about as well as the submission requirements of what you -- what boxes you check, what you write in certain sections on the actual application, but the actual application itself that you -- that gets submitted is what is available on Grants.gov on June 5th. So the requirements, what goes into a narrative, what you fill out on the application package is what's in the RFA. The actual application package that gets submitted to us is what's available on Grants.gov.

Elizabeth Albro:

Right. And we have a couple of other questions here. The earliest possible start date is July 1st, so you cannot propose a start date in June. We had a question about the URL link where we'll find the slides at. We don't actually have that link right now, but I do believe that the slide deck will be uploaded and that there will be an -- a follow-up email to everyone who registered with the link to the slide deck and the transcript once it's ready.

Just a quick overview of the peer review process for those of you who are unfamiliar. I sort of highlighted it at the beginning. After applications come in, they're reviewed for compliance and responsiveness. So did you hit all those requirements that we talked about? Did you make sure that -- did you follow the font size requirements and the margin requirements? Those that are compliant and responsive go forward to a review panel. Two to three primary reviewers read the application in the comfort of their offices, provide a score along the five criteria, the four

primary criteria and then the overall significance. Then there's a triage process and the most competitive applications are then brought to review by the full panel. The full panel is typically 18 to 20 individuals. --

And then the applications are reviewed and discussed and that information comes back to IES and we make decisions based upon that.

This slide includes links to additional information about the peer review of grants process that's followed and we also have available on the website lists of our peer reviewers for the past several years.

In closing, we just want to make sure that you read the RFA carefully. I hope that you guys got that message. There's a lot of really important and useful information in the RFA. Talk to us now. Don't wait. We're happy to work with you now. And as time permits, we will review the draft proposals and provide feedback.

Elizabeth Albro:

Here is our information. Just if you have any -- other things for us, please let us know. Jackie and I are both happy to answer questions offline. I will say that we are probably easiest to reach by email.

Elizabeth Albro:

You can try to call me in my phone, but I'm often not there --

Jacquelyn Buckley:

Right.

Elizabeth Albro:

-- and I will respond more quickly if you send me an email.

Jacquelyn Buckley:

Yes. And I always say don't be afraid to bug me again --

Elizabeth Albro:

Yeah.

Jacquelyn Buckley:

-- if you send an email, you don't hear from me in a little while. I will not be offended. We get lots of emails, lots of contacts. So certainly if you tried to get a hold of us and didn't, don't feel shy [laughs] to bug us again. And we may not be the right people for you to speak with and then we would direct you to the appropriate program officer.

Elizabeth Albro:

And I just want to remind everyone that the reviewers are reviewing your application based upon the scientific merit of the work that you've proposed, and while the personnel on your team are important, they are only one piece of what you propose. So just make sure that you're thinking about the entire application. So does LOI have a limit on the number of words? I do believe so.

Elizabeth Albro:

I think it's 3,500 words. Something like that or some -- is it words or characters? I can't remember. There is a limit.

The letter of intent, again, is really just for the program officers. If you submit a letter of intent to us through that portal, you will then receive an email back from one of the relevant program officers who will set up a time to talk with you.

And so it's really a way to begin a conversation more than anything else.

All right. We want to thank everyone. We've got some more questions. I'm just going to say thank you to everyone. We really appreciate your time. We'll continue to answer a couple more questions as they come in, but again, thanks again for your attention and all the good questions.

Jacquelyn Buckley:

Thank you.

Elizabeth Albro:

So we have a question here about the set of instructions for filling out the boxes in the application package. So that's actually -- I don't have the RFA in front of me, but I believe it's the last section applications. And so it talks about submission guide --

Jacquelyn Buckley:

Right.

Elizabeth Albro:

-- information. So if you look in the table of contents, it should be pretty clear. So it'll tell you, you know, what information goes in which box. All right. Is there any other question? I think we're good.

Jacquelyn Buckley:

Okay.

I'll just say thank you again and certainly feel free to contact us and we look forward to hearing from you.

Elizabeth Albro:

Yep. And good luck. We know it's a lot of work --

Jacquelyn Buckley:

Yes, [laughs].

Elizabeth Albro:

-- but we love this part of the process in terms of generating lots of ideas and are --

Jacquelyn Buckley:

Right.

Elizabeth Albro:

-- really happy to work with you. Yeah. Thanks again.

Jacquelyn Buckley:

Thank you.

[end of transcript]