

Grants and Innovation – A Grant Match Q&A

The following list of questions and answers related to grants and innovation. This document should be viewed as a supplemental document to the NSF Proposal and Award Policies and Procedures Guide.

The Q&A Presenters:

Dr. Celeste Carter, the Lead Program Officer for Advanced Technological Education Program at the National Science Foundation.

Ann Beheler, the Principal Investigator (PI) at the National Convergence Technology Center at Collin College in Texas.

There's about a million items that are required to go into the narrative section of the proposal, but it's only 15 pages long. People are amazed at how much they're being asked to put in and yet, the restrictions that are being placed on the length. So what's the best strategy? How do you allocate the space you have to the requirements?

Dr. Celeste Carter - I think what I would do is fall back on something that one of the people who developed this program, Dr. Gerhard Salinger, came up with which was, you can really craft a very competitive proposal if you respond to five different questions.

1. What is your need?

In the case of ATE, one of the things that doesn't work, well is, we think it would be great if we developed a new Nano technology program but there's actually no industry around; therefore, our students would finish with a degree in Nano technology and not be able to get a job. So need along with that kind of information is important.

2. What exactly are you proposing to do?

Last week, Ann presented the idea that you want to not have too many goals. So you're developing a new program, what does that involve? How will you work with your industry partners? Will they allow you to do a DACUM analysis for your curricular materials? What do you already have developed? What would be new? You've got to keep it very short and succinct but that's actually not a bad thing to do.

3. Do you actually have the people with the necessary expertise to actually teach and develop that program?

4. How will you know if you're successful?

That's your entire evaluation and assessment plan.

5. How are you going to tell the people about it?

What were your successes? Where did you see challenges? That's really because every single thing that is funded through this program is funded through our federal taxpayer money and you don't want it to just stay at your location. So you want to give people a chance to figure out what you've done and maybe contact you and say, "Hey I'd like to adapt/adopt what you've developed."

So 15 pages seems like a lot at one point and then, it seems like it's not nearly enough, but, it can be done. It can be done to the point that reviewers basically will give a proposal all excellences.

Ann Beheler - Sometimes writers are rather flowery in saying what they need to say that is just not usually possible in the 15-page limit. Say what you need to say and say it succinctly. That is hard for many, so it's a very good idea to have a technical writer review what you're doing because technical writing traditionally does not have a whole lot of flowery extra phrases in it. Secondly, I think one of the things that frustrates me from time to time is that the reviewers really want you to know exactly what you're going to do in advance of doing it. Our process is to work very strongly with our Business and Industry Leadership Team (BILT). We respond to them, and as a center, we will be responding to them once a year for the next five years. I would suggest that you put in examples as much as you can. You need to be very clear in what you say; I would not leave anything for the reader to figure out. They probably will find things that they need to figure out anyway, but that would be my very practical suggestion.

Dr. Celeste Carter - Being succinct is definitely a big plus. I would say that I've had people that have been declined and have called me up and said, "Well, I did everything that my grant writer told me I needed to be successful." So you really need to think about that. I remember this one very clearly, one of the things that was done in about four different places in this particular proposal that came in that was declined was over and over again they talked about their institution. The size of the demographics of students attending, you need to say that once, you don't need to say it four times. That isn't so much being flowery, but it's realizing that you've got a case to make with reviewers and then ultimately the program officer. You don't have a lot of time or space to do it; maybe it's building from an elevator pitch, and maybe you want to start with that. What are really the most important things you want to get across?

Is it possible to post exhilarate grant materials like supplemental materials? Is there something like a secure website that only reviewers or ATE staff members would be able to see? Does anything like that exist within the system?

Dr Celeste Carter - There's actually some information in the solicitation about supplementary documents. There isn't any place to post electronically, but you are allowed to provide some supplementary documents. I usually will caution people, don't overwhelm the people that will be reviewing your proposal. You do, as a reviewer, get a stack of 10 or 12 proposals that you want to read and if most of them are, let's say you have 15 pages, you've got five, six, or seven pages of budget so you're up to 22; you've got all of the people's biosketches so that brings it up to 32; and then you put in 50 pages of supplementary documents. Your proposal is twice as heavy as anybody else's that people are reading. You don't want to make a reviewer angry because they think they have that much extra stuff to read. You want to be selective, in some cases it could be that you're not allowed to provide letters of general support. However, in the case of ATE, people want to know who are your committed industry partners, and what are they going to do. It could be that local industry X says, "We are committing to work with this project and our role will be to offer six internships a year for students in this program. " That's a commitment letter and that's acceptable. Perhaps you want to have an example of an assessment survey instrument; you have to have the evaluation plan in the 15 pages. You could have an example, or you could say, "We actually have a validated survey that we've developed and just to give reviewers a chance to look at that, it's in supplementary documents." Those sorts of things are acceptable. If you've got curriculum already developed, but you're developing some new cutting-edge areas within it, you might want to give the reviewers a one page document that shows what classes a student completing an associate degree in engineering technology at your institution would have completed. I think you can do that in one page, and then, in your project description you're saying in addition, this is what we're doing to change that. So yes, there's an opportunity to use supplementary documents but don't abuse it.

Ann Beheler – If I'm not mistaken we're limited to 30 pages total now. At least that's what I was told. And that's what we did the last time we submitted anything. We do have commitment letters from our businesses. We use it for that, for sure, and really not for a whole lot more than that. That's hard; it's hard to get it all in.

A tried strategy was having six different industry partners that wanted to write letters of commitment for the proposal. But instead of having six letters, having them jointly sign a single letter just to make it a little clearer. Do you think that's effective?

Dr. Celeste Carter- I actually think it is. You're right, it saves paper. In one sense, because a lot of people still want to read a proposal that's been printed out, some people are adept at reading on the computer screen but again if you have 1 letter of commitment with very specific this industry is providing this; this industry is providing this and they all signed. I think that's a much stronger and easier thing for panelist to read, than six different letters.

Ann Beheler - I just looked at my last submission, we happen to be a center and have several partners that are getting sub-awards. I also have a letter from each of those sub-awardees essentially saying what they've committed to do and signed by a higher level officer either a vice president or a president at their college. Then for the centers that we work with that are going to be committed to doing something with us, we actually have letters from them and that's about all. We did the combined BILT letter with some representative samples; I think five or six of them signed the same letter, but they also stated that it had been reviewed by the entire panel and it had been.

When you form a panel review team is there industry members on it? How much should we target industry as a reviewer here? Does every review panel have an industry member?

Dr. Celeste Carter - We certainly want to have an industry member on every single panel; sometimes were very successful with that. Another option that is open to us and actually works pretty well is there are quite a few faculty on our campuses that have actually come to the community or technical College via industry. So I can think of one person that I know at Foresight TAACCCT who worked in pharmaceuticals for 25 years and now is a faculty member. So in a sense, I guess you'd say we're double dipping a little bit in that case, because we can say this is someone who has industry experience, and also, it can serve as a faculty member as far as a reviewer goes. But we definitely do try and bring in industry people, sometimes that can be a little hard just because of their workload, and also, getting the release time they need to serve as a reviewer. We definitely try to do that.

When you construct your proposals do you or how do you feel about the use of graphics or let's suppose a logic model? Do you use graphics on your proposal or do you shy away from them?

Ann Beheler - I probably should have brought this up before, the logic model is another way of getting across what you're actually trying to do. Though I don't believe I put my logic model first this last time, I've been advised since then that good proposal writers would put their logic model first, because it's basically the flowchart and design for the entire proposal. So we definitely have a logic model. We don't necessarily put a whole lot of graphics, because we've got too many words to be put in. However, we also put those words into tables. It's always a difficult thing to get everything in there, but you don't want to have it so crammed that the poor reviewer has difficulty reading the proposal. There's a limitation on what the font size can be, and what the fonts can be. You can play with those a little bit within the guidelines, but you can't play with them very much because they don't want people going blind reading your proposal; nor do they want them to be mad at you because you tried to make them go blind.

Dr. Celeste Carter - That's actually a good point. I think it really depends on some people like this, some people don't. What you're doing is trying to tell a story. You're trying to convince a panel of your peers that you have a good idea; you actually know what you're doing; you have the right people; and you really have this thing well worked out. I would not over use graphics, because as Ann said they do take up a lot of space; but as you're crafting this if you think the best way to tell your story is to include 1 graphic maybe 2. Most people now, not everyone, but people are definitely using logic models more than they used to. A logic model to me is part and partial of how your evaluation and assessment of your project will be carried out. So a lot of people don't put it at the beginning, they'll put it as part of the way they develop the evaluation and assessment plan. I would say you can definitely use it; you can use it very effectively, you just don't want to over use it.

An organization that says they want to target underrepresented individuals is there a suggestion at strategies that might be considered the best models; or what's the best shot of doing this?

Dr. Celeste Carter - It definitely is, what you want to realize though is that you can't exclude populations. So you could say, "We really need more women in computer science and information technology. We have some strategies that we've worked with NCWIT or IWIT." These are organizations that focus on getting more women into computer sciences and into any sort of an area, but you can't limit it to just that population. So again, you have to have a good plan for it, I think what works the best is when you don't just say, "We're a Hispanic serving institution and so we're going to impact Hispanic students; and this is our outreach to underrepresented groups," and that's all you say. Reviewers want to have a little more detail, like, have you looked at the Mesa program for recruitment and retention of students? Have you looked at the Puentes program? What have you found out there that you know has worked in another institution and that you would like to adapt and try at your institution? You may come up with a completely new idea but you want to give the reviewers some detail about it. So I think that's the important thing, there definitely are models out there whether it's women or underrepresented students. There are definitely ways to look through the literature and find things like that. I would say use the NSF awards' database, and put your specific category of people that you want to reach out to. I know one of the things that the Mentor-Connect project is doing is trying to reach out to small, rural, community colleges and students that are at those campuses. So that's another one. Or it could be first-generation college students. What are some of the challenges that they find in contrast to other students. Give us some detail.

Is it OK to be working on increasing diversity in a program but the program has to be a technician oriented program aligned with NSF ATE is that correct?

Dr. Celeste Carter - That's correct, yes. I should have said that because, I thought about it when I first started answering. Thank you for bringing that up because, yes, you have to stay in line with the mission of the program. There are other programs within the Division of Undergraduate Education if you are generally interested in the broader impact of underrepresented students and it really isn't related to your technician education programs. One of the other programs you might look at the acronym is IUSE, which stands for Improving Undergraduate STEM Education. When you look up the review criteria of broader impacts, one of the points of the broader impact is increasing the number of underrepresented students in STEM. So that would be another possibility, but if you're coming into ATE you definitely want to stay within the mission of ATE, which is preparing a highly-qualified entry-level technical workforce for the industries that keep the United States globally competitive.

How are international collaborations or international activities viewed within ATE?

Dr. Celeste Carter -We've had a few options over the years where the division that supports international activities at the National Science Foundation has co-funded some things to allow students

to have an international experience. Students have gone to Germany, Spain and wind farms offshore in Sweden. Those possibilities are available at times, part of it is going to depend on the budget that you can request, and whether or not you would have enough funding to do something like that. I think it's a great thing to do. I keep thinking I need to get myself upstairs and pitch it again to the International Division and say, "Hey would you guys like to do something like this again?" You know, everything from a transformative activity for students could be they've never been outside their state, and they actually get to go and do an internship somewhere in another state. An international activity, I think, would be phenomenal and we pretty much have to look at it on a project-by-project basis.

Ann, as a grantee, have you done anything international?

Ann Beheler - I have, it was not in our proposal however, a BILT member, the man who was at the time the lead for the Office of Innovation for Dell had been talking about what we were doing and our relationships with the businesses broadly within Dell. It turns out that someone in Canada Dell heard about it and asked me to come up to a conference in Canada to work with not only Dell but with several businesses and several educational institutions to basically talk about how we do what we do, and how we get the tight engagement. I requested approval to use some of my travel money for that purpose; they paid for part of it and I paid for part of it. It turns out that I requested the Program Officer approval for it and justified why we thought it was going to be useful, and it was approved. There are restrictions if you travel internationally, you need to travel on an American carrier; and I don't remember what else other than making sure that the program officer approved.

Dr. Celeste Carter - I think those are the 2 biggies. As you craft a proposal to do something internationally under the travel budget line of the budget form for senior personnel and PI and Co- PI there is a call outline for international travel.

To what extent could or should a proposal involve high school or even younger partners? How is that viewed? What's the current thinking about the involvement of pre-college activities?

Dr. Celeste Carter - This is one of the things that's been part of the ATE program since it was first developed in 1993, is that projects and centers can involve grades seven through twelve. So you can reach down into middle school, two-year and four-year, so the possibility is there. I know every once in a while people will say, "Well, we need to go even younger than that; we need to really get those students that are even in elementary schools, involved and thinking about computer science and engineering and all these other different STEM disciplines." The problem there is that pretty much every year we get congressional questions, because this is a program that was congressionally mandated that the National Science Foundation develop the ATE program. One of the things they want to know is what's the output? How many of those highly qualified and educated entry-level technicians are being employed in industry every year or at least graduating with either associate degrees or some industry validated certifications? It would be very hard to build a case that we're being responsive in this program if we had a large number of projects that started at grade 3 that would be a long time before we ever have a technician coming out of that pathway. So, yes, grades seven through twelve there's a pretty good portfolio now of either dual credit programs where a high school student can actually finish X number of units that count towards the associate's degree, and then, there's an articulated pathway so they can finish in some cases that can move on to a four-year. Part of that depends on what industry says they'll hire. If industry is adamant and says our entry-level technical people all have to have a four-year degree, then, you need to have a pathway prepared so that you can actually get students through that pathway, interviewing and hopefully getting those jobs.

Ann Beheler - I think it's important to work with high schools but not solely with high schools because I will say that if you are writing a grant and you ever hope to write another grant one of the things that is required is being able to show results of prior support. In the results of prior support, correct me if I'm wrong again Celeste, but the strongest thing that I can talk about is completers and placement in industry. Even if you're working with juniors in high school and it's a three-year grant you're probably not going to get completers in that case and probably not placement in industry. That's going to be kind of hard to pull off. Similarly, though, we also work with universities, and as a matter-of-fact, in IT there are so many new content areas that are being added in that we are actively going to be pushing that two plus two plus two tight coupling on a go-forward basis. So that we can ensure that the quote-unquote entry-level technician knows enough to really be competitive and get hired. There's just so much more being added into the fundamental knowledge that has to be covered. But, with that said, our university partners are partners they aren't the real major impetus of our grant; our major focus is community colleges. By the way, we work with high schools for the pipeline for the pathway coming in and we work with the universities because the reality is many industries want four-year degrees even if they will hire an associate degree student for starters.

Dr. Celeste Carter - I think that's absolutely right. That's one of those where, I've got to justify the impact and certainly if anybody who's writing a proposal, you, also, need to think about it. One of things that people have done is in addition to the work they're doing on their own Community Technical College campus with the students that are enrolled in their program, maybe you do summer outreach activities. Coding camps are huge right now. Maybe you're in a computer science IT area, maybe that's something you do for your middle school. You open something like that up as a sort of career awareness thing. So it's not a major goal and objective of your program as far as getting completers out and into the industry, but it's something you think is really important. I think that's something that can also work.

Ann Beheler - One thing we've done in the past is we've run a summer camp that has a nominal tuition to cover the cost of providing that summer camp, and we haven't gone below middle school; middle school is sixth, seventh and eighth here and we have been successful at that, because a lot of the parents in our region work. Parents are hunting for exciting things that their kids can do for the summer rather than having them hang around and watching cartoons. I don't mean to be derogatory in saying that, but they want something active for them to do that is actually going to challenge their minds.

For formally funded grants like the TAACCCT grants, how do you suggest we can sustain some of those activities that were begun and now are finished and how best to do that through ATE?

Dr. Celeste Carter - I think what you want to keep in mind is writing a proposal saying, "Well, we just finished a round two TAACCCT award, and we had great outcomes and everything worked really, really well and so what we really want to do is we want to keep that going." That's not going to review very well with panelists. What you want to say is, "We just finished our round two TAACCCT and we did a great job. We met our goals and objectives, this many students were impacted and were able to be gainfully employed." However you want to put your results of prior support. Then you want to say, "And through these activities some unexpected outcomes or challenges were realized. What we would like to do is to address those challenges or outcomes in a new project. This is something that is an outgrowth of a TAACCCT, but this is moving in new directions for us." You want to be very specific. You want to say, "We have some new innovative things that we learned because we had this award and this is how we would like to address them." So falling back on the underrepresented students, maybe you actually had a plan in your TAACCCT award to bring more underrepresented students into your program, and you found that of your activities a few of them worked okay. But really when you surveyed students and went out into your community you found that maybe there were three or four things that people were

really looking for that you hadn't even considered. You could come in and say, "These were challenges we didn't even know existed, and we think we have figured out a way to address them and this is what we'd like to do." So telling your story in that way, I think, can be very, very effective.

Ann Beheler - We had one of the 20 million dollar round one TAACCCT grants and the biggest thing I can say is that we had the National Center and the TAACCCT grant at the same time. I, basically, made sure that they supported each other, but no duplication of effort occurred. As the TAACCCT grant was concluding, we made sure that it was known that the curriculum that had been developed under the TAACCCT grant, which was infrastructure IT, cybersecurity, programming and geospatial technology. Well, we don't do programming or geospatial technologies for the most part, maybe a little bit of programming but we let it be known by folks that the National Convergence Technology Center would be a dissemination point for the curriculum for infrastructure IT, cybersecurity and some programming courses. So what we did was, basically, use what was there. Didn't make any sense to go off and recreate anything, let's use what's there and provide it to others. But, in terms of asking for NSF support to continue, the work needs to be something new and that's really not hard to come by in IT.

If you went into the upper level grades to try to recruit up underrepresented students, most of those you will have lost by the sixth grade. So a lot of the students have been lost because of outside influence. What can we do to target those younger students? I know everybody's looking for results; they need to see something fast. Everybody wants to show that they are doing things to bring in those numbers, but you really have to plant the seed years and years and years and kind of wait for the harvest to come. So what can we do?

Ann Beheler -I think it is very tempting to think that NSF and/or DOL are going to support all of our efforts. There's just not enough money to go around. So those sorts of things, outreach to middle schools, awareness working with some of the business concerns, we've sometimes been able to get a little bit of money and when I say a little bit its 10,000 or more to work with our summer camps for middle school. Maybe that's an approach to go for rather than trying to stretch the amount of money that NSF has for ATE, which is only, I don't know, 64 or 66 million a year. I don't know which number it is, but it's not huge. Rather than trying to make it stretch all the way down into grade school, I think it probably would be a good idea for us, the colleges, to go out to some of the businesses to try to get donations.

Dr. Celeste Carter - I think that's a great starting point, but I'd also like to point out, I'm in the Division of Undergraduate Education within my Directorate, which is Education and Human Resources. There is another division; the acronym for it is DRL, and that's the division that supports the K through 12 programs. So one of the things you might think about doing is, there's a program in that division called Discovery Research K-12, you can do things from K through 12, and focus on those younger students. The acronym for that program is DRK12. What you could present within your proposal are some of the questions that you will gather data so that you inform everybody about it. So it could be, well, what happens if we reach down into grades 3, 4 and 5 and talk about engineering technology, baker spaces, robotics and things like that. What will happen to student learning and student enthusiasm for those areas? You can go onto the NSF awards database and look up awards that have been made in that program and that might help you sort of craft your project based on things that you know have been funded. Another program that's in that same division is called the ITEST or Innovative Technology Experiences for Students and Teachers. Maybe what you want to do is look at the ITEST program and see if your ideas are a better fit for ITEST, than they are for the Discovery Research DRK12 program. In that same division that's where Citizen Science sits so the kinds of things like bird counting, lake watching, there's all kinds of things out there that even students and parents could get involved in. So

I'm specifically in undergraduate education but there's a lot here in this directorate that could support different types of projects and reach down into those early grades.

How might the ATE guidelines change over the next few years?

Dr. Celeste Carter – Yeah, we're actually trying to work on crafting a solicitation currently. You know a lot of times people will say, "Well, what is going to be the new upcoming really interesting areas and what should we be looking at?" One of the things that helps me out is I don't have to predict that, ATE is responsive to its partners, you and industry. So one of the things you want to say is what are some of those new and upcoming areas? One of the things I've noticed for a while is renewable energy, a big spike in renewable energy proposals. Sustainability is another one that's still there and high, but something that I think is very interesting is unmanned sort of aircraft drones. They're being used in a huge variety of ways everything from precision agriculture to, I don't know, google mapping is using drones flying over your neighborhood to actually have the maps updated. So there are all kinds of things out there as far as the program goes. Certainly anticipate that we'll still have the 3 tracks of projects which includes small new to ATE projects, larger full-size projects, centers and targeted research on technician education track which is looking at more of the applied research: what do we know about what really works; what can inform the community more broadly about best practices, and different types of research projects like that. I can't really talk about things that are in process. Please stay tuned, on the NSF website you can actually sign up to receive an email as soon as a solicitation is published or with any news about a specific program you're interested in. So I certainly suggest that you do that and as soon as we can get the solicitation out, we will do it.

Will the ATE solicitation be available in a matter of a few months?

Dr. Celeste Carter - I sincerely hope so. It has to be, a proposal of solicitation has to be published at least three months before the submission date. I'd like it to be significantly earlier than that. The submission date this year for ATE, as looking at it from past years, would be the first week in October.

What is ATE's interest in fostering two and four-year collaborations? In the past there has been discussion of our participants on a comment about a joint effort between the NSF and the Carnegie Foundation to foster two and four-year relationship, I don't think that was ATE specifically. What's your sense of 2 and 4 year relationships as a highlight of your proposal?

Ann Beheler – Ok, this is Ann's opinion only, I think having relationships between two and four year schools is very important however; I would not make it the highlight of my proposal. My highlight would be something else, and then, justify why we want those relationships based on whatever else we're doing. For example, what we're doing in IT, as I mentioned, the content area is growing so fast that we've got to figure out how to get high schools and universities involved to get people adequately trained for the workforce. Not to say that we can't do a good job in our 60 hours, but we either do that or our businesses are going to have to figure out what three courses they want us to take out when they add three more courses in. So far I haven't been real successful with them wanting to eliminate too much. I do think the relationships are very, very important. We have relationships with universities, and we will continue to foster those relationships. However, our grant is not run by the universities; we do have partners that are universities which is kind of a different focus.

Dr. Celeste Cater – I think they can be really important, and we certainly have some cases where the fiscal agent is a four-year. One example of that is the Nano Technology Center at Penn State, which has been funded for quite some time and part of that is because students. Most community and technical colleges will not be able to build a "cleanroom" Nanofabrication Facility, just not going to happen. I don't think there are too many institutions that will be able to find the millions of dollars necessary to

construct that type of facility. So what the Nano Tech Nack Center has done is they've come up with a model where they've developed six courses in which any community college student who has completed their initial course work on their home campus can move to Penn State and take those six courses in the Nanofabrication Facility and earn their associates degree. This is something that they're trying to spread across the country. They're connecting universities that have other Nanofabrication facilities in other parts of the country with their regional community and technical colleges, and then, they can support them with these six courses and/or the coursework can be adopted or adapted and implemented for that specific region. The industry people that are involved are companies in that region. I, also, think it's a great idea. Something that's coming up more and more is the idea that we need to really develop in our students, but it's not just our students, that all of us need to be lifelong learners. So the idea that you can have pathways that are pretty clear for students to see with multiple entry and exit points. One of the examples is from the Bio-Link Center is the Bridge to Biotech. Once that was developed then there was an on-ramp to the Bridge to Biotech. Those are stepping down as far as the expertise of the person and the background they have for their readiness to enter a biotechnology program. Those sorts of things and then giving those entry and exit points. Maybe your student completes the associate's degree and two or three years down the line there's a knock on your office door and they're back saying, "Well you know I just hit a ceiling, I love working at this company they'll actually support me if I can go back to school and move to the next level." What is that? Where should I be going? Should I be concentrating on finishing a bachelor's degree? Should I be getting more certifications? That's another way for people to think about it and to think about a pathway that articulates, you know, potentially what they really want to do is get that four-year degree. They've been an entry-level technician and they're ready now to complete a four-year degree in whatever area. I think all of those things are important, but for ATE the focus needs to be not on developing just that pathway to the four-year, but the fact that you are responsive to your industry partners and a student completing a two-year degree and/or some level of certifications at your institution, that industry will be interested in interviewing the student and potentially hiring them.

Post baccalaureate programs and community colleges: Do we have, within ATE, a number of projects that are directed at people that already have bachelor's degrees?

Dr. Celeste Carter – Yes, we do and I think they're very important. Having had a biotechnology program myself, it was, I would say, year-by-year the majority of students walking through the door who had enrolled in that program had at least a baccalaureate, if not, even a graduate degree of some type. A very common story that I would hear was, "You know, I've been trying to get a job in the biotechnology industry and I've been told that I'm actually not qualified." Students would come in and in a lot of cases, it would be a certificate that they needed. They would have the hands-on skills and competencies and then, be hired, sometimes hired out of the program. I know City College of San Francisco's program is the same. Madison Area College I guess Madison College now they changed their name, they have had a one-year post-back certificate or program for people just like that. People that have tried to get a job in the industry and have been told you're not qualified; yet, you may think you are because you have a four-year degree, but you're actually not. I think that's another important thing to look at. Somebody said that we were the reverse articulation pathway, and I was talking to someone who said, "Yes, we are the graduate school." So take that as you may.

Ann Beheler - There's something else too, a lot of the job postings out there say that a four-year degree is required. I've got my BILT nationally working on ways to counteract that because they don't believe it's true, but it is. If the job posting said the four years are required and an HR department is filtering the applications that come in, then, it can be a real limiting factor regardless. However, one thing that can happen, sometimes they don't say what that bachelor's degree has to be. So maybe someone has a

bachelor's degree in something like liberal arts or business oriented and they come back and get an IT certificate with several certifications that has made somebody be really, really marketable and that's using our existing stackable certificates in a different manner. I agree that we are in many cases the graduate school especially for liberal arts bachelor's degrees.

School standards and certifications are very important today is that ok in ATE? I mean I know historically the focus has been on that two-year degree but suppose the student is driving towards that industry certification or working against the set of skill standards to develop competencies, how is that viewed?

Dr. Celeste Carter - That's becoming more and more important. One of the things the Florida ATE center FLATE has done is to support faculty with curricular materials so that all the students in either manufacturing or engineering technology programs in that state are prepared to take the MSSC certification exam. Again, with ATE you want to think about what the industry say they're requiring. Are there certifications that the industry recognizes that they're asking for in those job announcements? The more prepared and qualified our graduates can be, the more responsive we are to the whole goals and missions of the ATE program. I think it can be really important that some of the hard part is there's lots of certifications out there and I think IT maybe has the most that are widely recognized - Microsoft, Adobe Photoshop, etc. I mean, almost all of us can list a few. How many of us can list five or six certificates in Advanced Manufacturing or you know Maritime industry or things like that? I don't know those areas well enough; and we need industry to be saying, "We're looking for that," for us to really think about incorporating that type of preparation.

Ann Beheler - I think it was really crazy maybe 10-15 years ago, because it was either/or education or certification. Often bootcamp "cram it down your throat" type learning. It's not either/or anymore, at least, our business team nationally is not saying it's an either/or situation. It is a both situation. We have curriculum now that is available. I won't say that it will prep someone for a certification test, but it's going to get them almost there. I never took a certification test, myself, without having to do a whole lot of outside study way beyond any class that I ever went to. Nevertheless, it's both, it's not either/or and the credentials from the community college are becoming more and more important as time goes on. Similarly, we work with the University of North Texas and our IT courses, our workforce courses in some states that are certain death for transfer, but not with the University of North Texas. In their BA in IT program, they take 21 semester hours of workforce courses, actual workforce quote-unquote *terminal courses* toward their bachelor's in IT that is even ABET accredited. Some of those 21 hours, very likely, some of them are aligned with certification test. So it's not an either/or, it's a both.

Please go right back to the beginning and tell us those five things again?

Dr. Celeste Carter – 1.) The need, and that can be informed by your industry and labor statistics number. 2.) What is your response to meet that need? What exactly do you plan to do in detail or as much detail as you can get into those 15 pages? 3.) Do you have the right people with the right set of expertise to carry out what you just proposed in number two? 4.) How do you know you're going to be successful? How will you assess and evaluate what you're doing? 5.) How will you tell others about it? How will you spread the word? I know we talked about this a little bit before, that if I put it on a website, they will come. This may not be the only thing you want to think about, you want to be more proactive than that.

There are a million things you have to put in a proposal?

Ann Beheler - Maybe it's not a million, but it is a lot and it's important that you keep a list of those required items that must be in that proposal from reading the solicitation, reading the solicitation, and reading it again. Also, using the Proposal and Award Policies and Procedures Guide, the PAPPG, it's very

important that you keep track of what you're doing. One of the horrible things that could happen is you have a really great idea and then failed to include items that are mandatory and get a decline. Yes, there are a lot of things, not a million, but there a lot. You have to keep track of it and make sure you address it. It's worth it!

More Proposal Preparation Webinars Coming

Three webinars still to come in this series:

- March 9, 2017 Grant Proposal Resources
- March 23, 2017 Developing Stakeholder Partnerships
- April 20, 2017 Final Tips for a Competitive Proposal

Every one of those upcoming, three events has a live Q&A scheduled one week later. Please check out our website atecenters.org/CCTA. This provides you access to pre-recorded webinars and our upcoming events.