Effective Approaches for Aligning Curriculum with Business Demand

March 26, 2015

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Michael Lesiecki - Good day everyone I'm your host Mike, Mike Lesiecki here at the Maricopa Community Colleges in sunny Phoenix, Arizona. Today's March 26 I'm pleased to bring our webinar to you titled *Effective Approaches for Aligning Curriculum with Business Demand.*

Webinar Details
Michael Lesiecki - A few details of the system, many are familiar with our system GoToWebinar, for this webinar you will be in listen-only mode using your computer or your phone. The chat pane is available for you to ask questions, so please ask questions we have two question breaks one at the midpoint and one at the end. And the webinars being recorded, in fact is being recorded right now and all registered attendees get a recording link for the webinars in this series.

Brought To You By
Michael Lesiecki - This webinar is brought to you by the Centers Collaborative for Technical Assistance with additional support by the ATE Collaborative Impact that's a project funded by the National Science Foundation and as you see in the disclaimer the work presented here does not necessarily represent the views the National Science Foundation.

The CCTA is Led By
Michael Lesiecki - What is this thing called the CCTA well is led by five national centers all funded by the Advanced Technological Education Program and you could see them their lists about the CTC center in Texas, SC ATE in South Carolina, Florida one of our presenters is from the for the Florida ATE center today, Bio-Link out in San Francisco, and our own famous center here MATEC Networks at the Maricopa Community Colleges. So we've collaborated to form this collaboration to bring the series to you.

Original Purpose
Michael Lesiecki - What was the purpose of this? We were asked to respond to requests from the Department of Labor to the NSF; they said could we have the centers provide technical assistance to TAACCCT grantees and others who are interested in this. Well, what could it mean maybe some success coaching, in person convening, knowledge management, best practices, maybe some peer to peer learning, all seem like good ideas to take advantage of the experience.

Also Appropriate For
Michael Lesiecki - I think you know the ATE program has been around for almost 20 years and obviously the type of things we're talking about today in the series is appropriate for all National Science Foundation funded projects centers and in general all workforce oriented programs of all kinds.

Deliverables
Michael Lesiecki - I know many of us on the line today are here representing the college's programs to see how to better connect with business and that's perfect we welcome you to that.

More Deliverables
Michael Lesiecki – What do we hope to deliver in this series? Well, as a result of for example a webinar today there will be the transcripts, videos, PDF of the slides all available online will be sending you those links. We also want to invite you to regional discipline specific conferences, the annual HI-TEC conference at the end of the webinar today we'll talk about that with a very specific TAACCCT convening at that conference. So lots of upcoming events that we want you to be aware of more about that in a minute.

Poll #1: Your Affiliation
Michael Lesiecki - Now it's time to ask you a question, so let's go ahead and launch the poll and then we'll see how we got here just one second there we go, launch. So would you please click on the buttons are you involved with an NSF grant, are you involved with TAACCCT grant, neither or both. Excuse me both or neither are the correct order. So please go ahead and see that the results are pouring I can see them on my screen, you probably know the answer to this, so this won't take a lot of time to do this, so just a second, I'll give you a countdown, 5, 4, 3 please type in your last numbers. And let's take a look at the polls very interesting most of us on the line today are involved with a TAACCCT grant but a fairly significant number are involved with both and interestingly enough neither is a significant number for us today almost 20 percent perhaps we're here to learn more about these two grants or just in general this topic. So I think that's an excellent spectrum of attendees for us today. Let me introduce myself again, Mike Lesiecki, Director of the Maricopa Advanced Technology Education Center and I'm pleased very pleased to have my two colleagues, Marilyn Barger who's the PI at the FLATE Center in Florida and Ann Beheler PI and Executive Director at the CTC Center. Marilyn, I think you're up first here aren't you please make sure you come off mute and start the presentation.

Marilyn Barger – I only see the quick poll on my screen.

Michael Lesiecki – Oh thank you very much for reminding me lets go ahead and close that thank you Marilyn and one second how's that Marilyn?

Our challenge!
Marilyn Barger – Much better.

Michael Lesiecki - Thank you Marilyn, okay.

Marilyn Barger – Okay, good afternoon everyone and welcome to our first of our webinar series, sort of the first one from this delivery mode and I think everyone here recognizes the challenge that we all have in workforce programs that was kind of caught in this recent article in Industry News recently out just this week and down there at the bottom you'll see this says that there have been a lot of concerns about machines and technology replacing humans when it comes to jobs in fact we're seeing a lot of technology, the technology is allowing for and enormous amount of new jobs to be formed. And just in that statement it kind of makes the cracks of what we're going to be talking about today we have to keep up for this with our industry with the materials we're teaching our students.

Objective
Ann Beheler - And our objective today, this is Ann Beheler, with the Convergence Technology Center. Our objective today is to look at two very different methods for aligning curriculum with business need, so that our graduates are workforce ready. One of the worse things we can do is have the students go through our program and work very hard and get our certificates and degrees only to find that they're

not prepared for the job that are out there in our regions. Our center is a National center but what we do, I'm by the way I'm responsible for a round one TAACCCT grant and a National, National Science Foundation Center and what we do everything we do it on a national level so we're gonna look at how we work with a national business team it's not specific to a SOC code and some of what we do does have to then be localized by our partners. And what Marilyn does is on a state level in the state of Florida it very rigorous and addresses state standards. So we have two totally different approaches although they are very similar in a lot of ways. So what we're gonna do is show you both ways and hopefully you will gleam things that are useful to you out of what we show. Okay my slide does not want to advance folks.

Desirable characteristics of effective curriculum review process models
Ann Beheler – There, either way if you're working with business, we both agree that it's very important and working with business that they know that the curriculum review that you do with them are on a particular frequency that is frequent not infrequent its regular that we communicate to them a formalized process of some sort, that we involve faculty leaders, with the subject matter expert and that they work together and that we make sure that what we do our industry ensure currency of our curriculum and relevancy of our curriculum and that we provide guidance on those curricular updates so they know that these curricular updates actually get implemented at our colleges. Okay someone's gonna have to help me.

Informal Methods of Input for Curriculum
Ann Beheler - My slides are not advancing so okay, Marilyn.

Marilyn Barger - Okay so we want to acknowledge that there is a number of ways that we could get input from I industry partners and other stakeholders and there are some informal ways that we get some information from them those include some anecdotal information that we might hear on a day-to-day basis from partners or colleagues, reading in various publications on the Internet and a lot of time we get good information from working students and graduates. Another way to get some kind of informal information about trends and which direction programs should be going is from the typical college-level program review these are generally at a holistic view of the whole program and doesn't really focus on the curriculum per say but generally 1 or 2 or 3 things pop up as well you should be looking forward and to this. The idea here is that some of this anecdotal information should be brought forward into air on an informal methods should be brought forward in the formal approach to getting the curriculum re-evaluated, redesigned and moving forward so. Okay let's see.

Formal Curriculum Review Processes
Ann Beheler - And there are a lot of different names and methods for formal curriculum review some call it a Job Task Analysis, we sometimes call it that, so call it or use the formal process called the DACUM process. That's not he approach we use in particular, we use what's called a modified DACUM process and I will differentiate those two processes as we go along. Whatever you do it must be a defined and required process and have a schedule and if there are national industry credentials or standards it's important to align with those. In IT there are certifications however we don't have standards in all cases in some cases we do but in all cases and again on a national level we're doing the umbrella alignment and the local colleges will then need to ensure that they are aligned with whatever is needed by the local industry, next slide.

Working with Industry for Defining Curriculum
Ann Beheler – Marilyn?

Marilyn Barger - So the most important piece of this again just before we start out two examples is that for a really strong focus on what industry needs so that the graduates that they get, that they hire are ready to go to work. So we can help them by being sure that we listen to their needs and make sure that we get the right mix in the room when we're doing whatever review and analysis for working on that we really value their time and one way we do this is by having a good process in place and the tools we need to carry out the work in a timely manner and make sure they get engaged in the discussions and conversation so they don't get lost on other topics so facilitation and some facilitating consensus. We like to do as much as possible we have to do it in Florida but sometimes it's a challenge to get there. Okay I think we're ready for our first example.

Speaker: Ann Beheler, Ph.D.
Ann Beheler - Okay, again I'm Ann Beheler, I am the lead for 2 national efforts one being the National Convergence Technology Center and convergence technology is nothing more than a fancy name for networking plus communications technology some folks call that ICT, our particular business and industry team does not like that term they say that's a great term for over in Europe but they don't like it and you know what I've been working with these folks now for over 12 years and I listen to what they say, so we're still calling ourselves the Convergence Technology Center like we did back in 2003. I also work as I said with a round one consortium that is a TAACCCT consortium, it's an IT consortium that focuses on networking and data communication, focuses also on cybersecurity, programming, and geospatial technology, next slide.

Setting the Context
Ann Beheler - And in the context are prophecy with the business and industry leadership team actually came out at work at the Convergence Technology Center based at Collin College in Frisco, Texas. We were founded in 2004 as a regional center and at that particular time the IT programs across the nation severely depressed this was right after the dot-com bust and 9/11 in the North Texas regional we had lots over 200,000 IT jobs and it was right after the community colleges nationally has staffed up to be able to hopefully address the great need of hiring lots of faculty and training lots of people for all of the IT job in the that we're going to be needed in the late 90's and early 2000's. For those of you who have been involved in IT for any time period you will know in fact that IT is sicklit and its in high demand and then the bottom falls out and when the bottom falls out it usually comes back, well so far it has every time during my career of several years and when it comes back it has a different requirement than it did when it went down. So we believe that the industry would rebound and we worked with our business team to figure out what that would be next slide.

Business & Industry Leadership Team (BILT)
Ann Beheler – Our business and industry leadership processes again were developed under the regional center. We're now using them with the National center with 8 partners from coast to coast, north and south, east and west and also with 40 affiliates in our Convergent College Network. We also use them in our DOL TAACCCT grant with 7 partners again coast to coast, North and south, we align our curriculum that happens and then another side is that it ends up providing a very highly engaged business team that is around to help us with a lot of other functions, next slide.

Business Role

Ann Beheler – The business role is very, very important, and for those of you that are involved in TAACCCT that is a required role in the TAACCCT process. Business in our case actually leads our work, it takes a little bit longer to work this way but it's very important they do not just advise and this approach actually works with any technical program as I've told you that we have four different IT specialties in our TAACCCT but I've actually used this with a Technical Writing Program and I have even used it with something as than usual as a sailing program at a college in California. We're working on figuring out the skills and the knowledge areas that needed to be trained. For those people that are needing to learn how to sail huge yachts around the world and it sounds all glorious and fun but you know what they have a lot of very technical things to learn, next slide.

Sometimes Business Teams

Ann Beheler - Think about it sometimes business teams meet only one or two times a year and that's the only time they're on your campus, I wonder if that's the case if they're terribly engaged sometimes they have a mixed level knowledge, sometimes the people are technical and sometimes they are not, sometimes they give advice that might not be honored that actually is a pet peeve of mine. My career is actually part corporate, part academic and actually part of entrepreneur and I spent a lot of time of my time trying to help fund the college's to get their program aligned so that I could hire their graduates and it was very disconcerting to work with colleges and realize that the advice I thought I gave them last semester went totally unheeded and that the product that they turned out or they graduated was something I actually couldn't hire, that was really upsetting to me. Sometimes business people often find that their time split among colleges in a region in a metropolitan region it is not uncommon to find ten or even more community colleges all squished together in the area and all asking for the same person, to come and help with the program. I would offer that it might be a good idea to stop worrying about competition and worrying about coopetition and put together regional councils so you can get the right people to come and help you. And sometimes we ask or sometimes the business teams are asked to rubber stamp programs rather than lead them, next slide.

Our Process = Engagement

Ann Beheler - I'm not alleging that your program is not engaged, I'm not alleging that our process is the only way to align curriculum or the only way to produce engagement. I will say that the process that we use does produce engagement and does produce curriculum that is aligned with business need. We are in a wonderful position with our TAACCCT grant that we have businesses that are wanting more graduates than right now than we actually have produced their standing in line wanting our graduates that graduate this spring that's a wonderful situation to be in. Our characteristics of how we work our Business and Industry Leadership Team and we don't call it advisory that our choice, we chose not to. I don't care what you call it really doesn't matter but our Business and Industry Leadership Team meets quarterly, once a year it's face-to-face and three times a year it's via webinar. At that one face-to-face meeting a year we use our solid process that is business lead to determine the knowledge, skills, and abilities that they want our graduates to know, we call it the KSA analysis. Every meeting covers the trends the information technology business changes so rapidly that it's very difficult for us to get ahead of the curricular changes that our business teams want. I don't know about your college but we're not exactly fast about implementing curricular changes, we're faster than we used to be, but we still take several months, nine months to a year to get curricular changes implemented. In essence our BILT leads and they co-own our curriculum and that produces engagement where they feel that they are really highly involved with our work and they will help us on a number of fronts, next slide.

KSA Analysis Process

Ann Beheler - I will give you several slides here that give you some background and then I'm gonna show you an example. Our process is the modified DACUM it is based on a process called PCAL7 that was developed by the United States Air Force, the reason it is a modified is that rather than starting with blank wall where the subject matter experts come up with a list of knowledge, skills and abilities, we actually started with a pro forma list of skills and knowledge areas based on the national skills standards from the late 90's and early 2000's. Now we've modified it every year since where the business team has added and subtracted and modified the listings, so what we have now doesn't really resemble what we started with. But it because we started with a pro forma list of skills and knowledge areas, our work took around six hours when we started and now it can be done in about four hours as opposed to two or three days for a full DACUM. We do update it annually via a face-to-face meeting and I will talk with you about why we make that face-to-face, I know you can do a lot of this virtually or a lot of this via email however face-to-face is very important, next slide.

KSA Business Team

Ann Beheler - It's very important that the business team be technical and those technicians maybe the technicians that are actually doing the job or the first line managers, they could be higher level managers as long as those folks are still technically up to date. We do not normally request a lot of HR reps to be on the team, however they could be HR reps if the people are HR but also very technical. I know Marilyn has talked about having an HR person that was most recently an engineer and very up to date technically that's perfectly OK but the emphasis is that the person on the team does need to have technical skills and knowledge, next slide.

Skills Validation Process

Ann Beheler - In the process the job skills spreadsheet it has the list of the skills and knowledge areas, the group will add and subtract to that list and they're going to rank each one other item from one to four with one being the least important and four being the most important. And it's important for the facilitator that runs this session to focus the people on what and entry level person coming out of the college's program 12 to 36 months in the future must know. It's very tempting to have the business people want to address the retrain employees as well as the entry level employees but that's very, very difficult because what the curriculum should look like for any entry level employee versus what a retrain employee needs are very different. I would allege that an entry-level employees curriculum would probably ultimately have the courses at the high end that a retrain employees would need and it all works out fine, but to have the focus be split is very, very difficult. So it's important to focus on the entry level employees, next slide.

Validation Process

Ann Beheler - The rating criteria needs to include four things as the subject matter expert from industry looks at each item the person needs to include the importance of the skill or knowledge area, the level of proficiency that the entry-level person must have, how much time that person needs to spend on that particular item and how difficult the particular item is to learn. It's very, very important to listen to the discussion that the subject matter experts might have on a particular item. Let's say for example half of a group of 10 might rank a particular item at one as is not important at all and the other half ranks it at 4, most usually what we find is that there's a semantics problem a misunderstanding in that case and one the group discusses it, it usually comes out that the group is more or less in agreement and that the statement of that particular skill or knowledge area is incorrect and the statement itself needs to be clarified, next slide.

Validation Process

Ann Beheler - The actual spreadsheet with the skills has formulas in it that actually calculates the average of the rankings and anything with the three or above in general is supposed to be included in your curriculum. The faculty take the list that the business people put together and they cross-reference the list to the existing courses and figure out which courses cover these skills or knowledge areas that the business people want, and then the gaps are identified. And the faculty come up with the curriculum strategy to figure out how to fill the gaps. And once they figured out how to fill the gaps, they can group the various courses in to programs, i.e. certificates and degrees and report all of that back to the businesses. Let's look at an example here this is a very small example on the next slide.

Originally Ranked Individual Skills

Ann Beheler – And I hope you can see this, again this is very small, let's look at the very top we have some operating system areas knowledge domains; Unix/Linux, Windows, Mac OS, Android and Apple IOS in that particular example for Unix/Linux we had nine people in attendance one person ranked Unix/Linux at three, the others eight ranked it as a four, so the average was 3.89. I marked that line with green because that mean that the ranking 3.89 means that there should be some kind of a course in the curriculum that would cover UNIX or Linux. And the group that day they didn't care whether it was UNIX or Linux because they were very similar. On Windows the whole group said 9 of them said the ranking should be a 4, most of the networking at the most common operating system in the networking world is Windows. So we needed to cover Windows for sure, however if you look at the ranking for Mac OS the average ended up being a 2 and there were nine people that ranked it but the rankings split out so that the average was a 2. And then Android and Apple IOS were actually added at this particular session but there were only four people that voted for either one of them and the four votes were at a 2, so we're not going to end up putting any curriculum in to the handle that, but the comment say this is gaining importance and that's because our group is seeing the importance of addressing the smart phones. Smart phones are more and more delivery mechanism for network applications therefore what their saying is you need to keep an eye on this, we don't have to do anything about it right now but keep an eye on it. So this is important information for the future and then if you look down at the bottom there, there is another green particular item under operating system maintenance and then there were several others on the page, OS scripting there were nine people there that ranked a 4 for scripting so that needs to be addressed. Okay now over time and if we'll look on the next slide.

Certification Classes Aligned with Certifications

Ann Beheler - Over time we've had a lot of certification come in to being, this has not always been the case I will show how it worked out for the first couple of the ones on this particular slide. A+ Certification at one point we had curriculum and on the certification we typically have curriculum, we have books provided by either vendors or publishers so there are typically books or curriculum available that cover the entire certification and so we can pretty much codify what we want the subject matter experts to rank by saying do you or don't you want us to cover the A+ certification. So the first one is very interesting A+ certification over time has become less and less important but look at the comment there they ranked it as an average 1.56, and if one was to look at this just at the ranking number it would say hmm they don't value the certification A+, but by the comments they say they want people to know the concepts they just don't value certification. So I marked this with a green even know it's not a 3 or a above because the business people want the concepts to be taught even though they're not valuing the certification itself. Whereas on the Network + Certification they ranked it an average of 3.33 which said they want the certification and they want the concepts, next slide.

Faculty Map to Classes to Identify Gaps

Ann Beheler - This is a little bit harder to see but if you look down on the second column from the left the averages are there and we only carry forward the ones that we need to map to the actual courses this particular spreadsheet would be very, very broad because it would have all of the courses, all of the technical courses that you currently have listed and what we would do is have the faculty cross-reference those courses against the particular certification or the particular individual knowledge areas or skills and we don't get any more granular than to say there is coverage or exposure it kind of hard to see but the blues are through coverage and the yellows are exposure. And we do that mapping and then the items that are not covered at all at least in the courses that are shown here are marked as gaps. Now if we were to cover all the courses and have the usually 20 or more courses listed out there I suspect we would have something that would be covering A+ and Net+ but in it snapshot that's not there, now what might not be there is the VMware certification that is a rather new certification that is very important. Anyway once this cross-reference is done anything that is still a gap would need to have curriculum developed and then the faculty would group the courses into certificates and degrees and present that back to the business team. That's kind of a quick tour through this and so let's summarize what we get by doing this…

Important Features of KSA Analysis

Ann Beheler - And some of the important features. This is done through a face-to-face discussion and the reason is because of the importance of the discussion. Sometimes the discussion is as important or more so than the actual ranking, it's very important that everyone be fully engaged therefore we ask people to put their cellphones away and to turn their laptops off, and that really kinda hard; it's hard for me to do that. Also it's important for all the business people to recognize that no college can train for their specific needs this hard because business often want to have the college train exactly for the employees that they want higher but it's important for the businesses to come together and recognize that they have to kind of train for a common denominator that will in fact work to get most of the skills that they're going to need in their entry level people but not exactly be the employee they want. And again remember our approach is national so that it does require that the colleges have to do a little bit at localization in order to get exactly what they want in your particular area, next slide.

Everyone Has a Role

Ann Beheler - Remember also that everyone has a role the subject matter experts from business and industry participate in the ranking and discussion. The faculty only attend as active listener, they may ask clarifying question but it's important that the faculty not dominate the business discussion. The faculty though are definitely in charge of all the cross-referencing and identification of gaps, in creation of the curriculum after the meeting. The facilitator needs to be quite strong to make sure that the no one business dominates and they are responsible for making sure that the meeting comes out affected and then the recorder must record the rankings and the discussion and prepare meeting minutes. It's very, very important to have meeting minutes, if you go through this process, next slide.

Approach Aligns With Characteristics of Effective Review/Process Models

Ann Beheler - You will see that the approach aligns with the characteristics that having an effective model for curriculum review, for curriculum alignment and curriculum implementation and then next slide.

Result: Active Engagement

Ann Beheler - The other thing you get is a very active engagement because once the business people have been through this process and through I'd say probably two or three of the quarterly meetings

where they talk about trends and where you take your curriculum back before them where they can review what you've done and realized that their leadership is being valued they are more than willing to work with you on events, provide professional development, all sorts of things, they will be guest speaker, participate at conferences, I have at least two of the business people on the national team that I can literally ask, what are you doing on a particular date in the future. They don't ask me why, they look at their calendar first then ask where we going, what are we doing and what our goals, what are we trying to accomplish. And that kind of a commitment you cannot buy it's absolutely fabulous and it's achievable plus too the graduates' graduate work force ready and they get jobs. What question do we have, Mike?

Questions
Michael Lesiecki - Thank you Ann, we've got several important questions. Let's start with the most important one, how do we sign up for that sailing class there that's what we really want to know, I'm just kidding.

Ann Beheler – No, it's great the program is actually at Orange Coast College, and they are still doing it.

Michael Lesiecki – I know I was there one time. Here's a question we're very interested in this PCAL7 process is it possible you might be able to provide samples of documents that you use in that process at some point you could think about that what you think?

Ann Beheler - I can, the person that originated it is Brick Hesterson.

Michael Lesiecki – I know Brick.

Ann Beheler - Unfortunately he is deceased, he died. He had a heart attack unexpectedly at a very young age a passed away must be five or six years ago. He gave me permission to use the process, I can probably provide you excerpts from it, it still says copyrighted so I kinda hate to just share it broadly but you can yes I can provide you some documents, we'll put it on our website Mike. The other thing is I would invite people to participate via phone in our webinars were coming up on our face-to- face one for networking in May, you can participate in that one via phone, but it's going to be hard to really hear well, because we'll be in a bigger room and we'll have one Polycom.

Michael Lesiecki – Right, I'll tell you what let move that discussion to what we're were cable of posting on the CCTA website. We'll get back to that thank you.

Ann Beheler – Okay.

Michael Lesiecki - Another question you know DOL and TAA money is a big question can you pay for these BILT meetings, are they in your budget, have you, how does that work?

Ann Beheler – I put them in my budget.

Michael Lesiecki – Oh you did?

Ann Beheler - Yeah I put one face-to-face meeting actually I put two face-to-face meetings of the BILT team in the budget.

Michael Lesiecki - What if you know you're listening to this webinar you say my gosh, I gotta do this and you didn't budget that in your TAA round three did you have to go back to your program officer or could move some funds, what would you do?

Ann Beheler - I would talk to my federal program officer and ask.

Michael Lesiecki – Okay.

Ann Beheler - I think it depends, we're fortunate we are in the Dallas area and a lot of national concerns are based here or have offices here and this is something I know don't know if I said it, I had it in my notes but I don't know if I said it, we are fortunate at Collin College we're able to you some other National BILT members for a national purpose and also for Collin College because there within 30 minutes of our location. We're just very, very fortunate because of our geographical location and you could try to do this via webinar, as long as you can support video conferencing, you could do it that way it would not be quite as easy as if you had them face-to-face. We do usually have a few virtual attendees it's kinda hard to start that way but we do usually have a few virtual attendees. We have some folks that are in D.C. and Chicago IL actually on the west coast now.

Michael Lesiecki - Oh boy, there's lots of interesting questions here not sure we'll have time to cover them let's take one more Ann and then for the interests of time we'll go ahead and then get the rest at our final question break. There are several questions that relate to consensus, do you have problems getting consensus amongst the BILT? As you mention that so often the semantics question or number two what about getting faculty to might be resistant to the fact that you got this? I know it's a complicated question but so keep your answer fairly brief, number one consensus, number two what about those recalcitrant faculty?

Ann Beheler - Well number one is easy, usually it's a semantics issue among the BILT and the numbers tell the story if you can't get it. If someone after discussion absolutely says well I'm sorry in my business I voting one anyway and the rest to the group votes threes and fours, the threes and fours are going to win out. And that person just gets overruled. Oh my well mine recalcitrant faculty.

Michael Lesiecki – Yes, short answer.

Ann Beheler - Short answer is you hope you have more that aren't than are.

Michael Lesiecki - It's probably not a bad answer when it comes down to it.

Ann Beheler – Play with the ones that want to play.

Michael Lesiecki – Yea sure makes sense. Okay cool, lots of questions coming into the question pane as you see there and we'll get to them as we have time. I want to invite our colleague Marilyn Barger to jump on with us. Marilyn, I'm gonna take you to your slide, let's see.

Speaker: Marilyn Barger
Michael Lesiecki - There you go, go ahead Marilyn.

Marilyn Barger – Okay, good afternoon again everyone and now welcome to part 2, I'm going to tell you a little bit about our center, next slide please.

Who we are
Marilyn Barger - Okay so we are also a National Science Foundation Advanced Technological Education Center, we're a regional center in Florida and that's our region it's been defined in the state of Florida and it's a very big state not quite as big as Texas, but none the less big. Our center is hosted by Hillsborough Community College in Tampa and we've been funded just about as long as Ann has at CTC since 2004 and have stuck with the regional center because the infrastructure that we have the support we have at the state level for implementing systemic changes has been really very strong and we've been quite successful with the works we've done keeping it with our state and just sharing our model with across the country. So that last bullet says we do have a statewide system for curriculum for technological programs in both secondary and post-secondary level and their housed in the same office so we share the same supervisor over those programs and related disciplines, next slide please.

Florida Engineering Technology AS Degree
Marilyn Barger - Okay so what we're gonna be talking today about just a regular old fashion associate degree ours is laid out some like this, just GenEd that we have a defined core and in our case that particular care is aligned with industry standard and then we have ten different specialization tracks that generally take up most of the second year technical program, okay next slide please.

Florida's Curriculum Review Process & Players
Marilyn Barger - We actually before as a new program comes on to on the horizon we would do a similar process to what Ann discussed earlier. We would probably do a DACUM or a job task analysis, I'm actually hosting one in the next, well the end of April on a different topic then we're talking about today but that would be the initiation for us. But once a program gets put into place we do have a process a state wide process that is defined by our department of education, when it goes through these three sections on this slide, it's gonna go through the process and the players and I'm just going to move to the next slide please to blow it up a little.

Florida's Curriculum Review Process & Players
Marilyn Barger - Okay so in our case the Department of Ed is the manager of the process, they're legislated to do this to make sure the curriculum for career and technical programs at any level are relevant to industry needs. They're required to have a three-year work plan in each industry sector to identify occupations that need workers across the state and then they oversee the implementation of work plans that they that defined as the three-year cycle, all the time lines for when documents go out and in. And the participants that will be involved in the actual process, and of course they are responsible for the final documentation that goes to state for state approval, okay next slide please.

Florida's Curriculum Review Process & Players
Marilyn Barger - They pass on their line of duty to what we would call a program committee and this is the group of you'll see down in the middle bullet here that the members of that group are the same people that Ann was talking about that were involved in the analysis that they did for curriculum, there's educators, industry, we may have regulatory agencies, workforce boards, any stakeholder who are involved in the industry, we do require that workers, the technician's do resemble the people who are coming out after and they're doing their jobs, but the people who are coming out of a program be involved as part of the work force, sorry as part of the industry contingency because they're the ones we're trying to define the skill set for. But this group has the power to develop, new, revise, to delete existing and consolidate duplications in different curriculum programs, we do send this back to the DOE for compiling on the consensus documents, next slide please.

Florida's Curriculum Review Process & Players

Marilyn Barger - So we get out of it a new a revised framework typically this is in the revised area, it defines exactly what individuals need to know, be able to do, so knowledge, skills and abilities and for secondary programs this would include Common Core Standards alignment as well as information about their CTSOs their student activities that go along with the particular, the organization to go along with particular industry, it also includes alignment to industry standards for both secondary and post-secondary. We're lucky to have statewide articulation for industry credentials and that's defined in this final document. Also defines occupations and SOC codes that are aligned, ok next slide please.

FL Process and Timeline

Marilyn Barger - So this is just kind of an overview, for us it's not a four-hour process, for us it's almost a year process and I'm not gonna read through this but you'll see that the it is a distributed process so because all of the colleges involved in a particular program are advised by the Department of Ed that this review it coming up that happens in the spring. Subcommittees are formed as each working group whatever they call them are form at each campus and often involves their advisory boards and it may involve additional industry people as well to get the technician then who may not be on their advisory boards and each group then meets to carry out the review process which we'll look at some the documents in just a minute and then a lead college consolidates all those and sends it back to the Department of Ed, they review it put it in a final format, one more cycle of review to make sure people get to see what others have suggested and then it goes, put into final document and it goes for state approval. Finally at the end as the longest processes for curriculum development it's got to get back out to the colleges for implementation, Ann mentioned this, Ok next slide please.

Sample Framework Document

Marilyn Barger - Alright so just to make you dizzy this is a sample of our little piece of our framework, they're actually about anywhere between 20 and 40 pages of skills, knowledge and abilities that are grouped together and standards and benchmarks as we call them, next slide please.

Sample Framework Document

Marilyn Barger - And I just blew up parts of this so you could see it. It's got program demographic information up at the top, see the SOC code, how long the program is, we have documents like this for college certificates as well as degrees. Their program number, title, et cetera and then all of this long laundry list is all these knowledge, skills and abilities so they look like statements that demonstrate knowledge of something, have to construct something, prepare, typical kinds of statements that come out and not unlike we saw the analysis Ann did, next slide please.

Sample Framework Review Document

Marilyn Barger - Alright so what we do in order to facilitate this process and this goes back to one of those defining characteristics that's important is to make this an easy job for the people who are involved especially our industry partners so giving them that document and telling them to review the previous one would be sort of a nightmare so it's standardize into a template a little form that they can review easily with you and provide input right into this form. So that all of the knowledge, skills and abilities, standards and benchmarks are moved into it a template and then are distributed out to the working teams and all they have to do is check one of these boxes on the left and then provide a comment if they need to.

Sample Framework Review Document
Marilyn Barger - So for example on one of the things that Ann mentioned earlier was there was a lot of confusion a lot of times about semantics and what things meant and here's one case where we see on the last benchmark here 12.02 the comment is this needs clarifying- are these individual or integrated systems, that they want them to be able to construct flow diagrams for. So that's a kind of input that individuals would provide, they may do it in groups, typically they would do it in meeting face-to-face, some groups have done it by webinar also, it's like Ann said this is also challenging but can be done and sometimes they're done individually and just compiled separately and then folks come together and discuss the conversation to see what everyone else has said and come to consensus, okay next slide please.

Sample Framework Review Document (2)
Marilyn Barger - Just to reinforce that industries involved part of the final documentation that's approved by the State includes the list of stakeholders who participated, industry, educators wherever they're from, next slide please.

Summary of A.S. ET Degree 2012-14
Marilyn Barger - And another piece we often look at is well what did happened to a particular framework for a particular program over the course of its review and this is a summary of one program review that was done recently and I just like to point out because again Ann mentioned it, we had a the biggest changes where here was benchmarks, opps go back that was my fault, I think I'm sorry can you go back two slides, that around benchmarks were updated for clarity, a whole slug of those where changed for clarity and also standards so both benchmarks and standards being update for clarity in the same statement that Ann mentioned about the semantics of coming together and what actually words we're using to accomplish a certain task and getting the vocabulary from different industry sectors or from different workforce folks to understand that they're talking about the same thing so there's continuous improvement on that defining what those actual skills, knowledge and abilities are so that everyone understands what they're talking about and what exactly he students will come out with. I have one more comment about our process it looks like it's very complete but it built into the a standard framework in Florida we have a particular, it's supposed to apply to about eighty percent of what student learns and learns to do during a program a study. So what does that mean that give the local colleges the opportunity to input their own special needs that are related to a particular program of study so that gives them that flexibility that they have to have for regional implementation across the state, okay next slide please.

Desirable Characteristics of Effective Curriculum Review Process Models
Marilyn Barger - And coming back around you should have seen many of these characteristics in that process making sure that it's done on a regular basis, that we have communication process and a formalized process so that data can be collected, it can be compiled and redistributed and it involves faculty leaders and subject matter experts that we keep industry involved for relevancy, currency and that ultimate goal is to get the curriculum updated and updates out to colleges, ok next slide, I think that's it.

Join Us – All Webinars 3 pm Eastern
 Marilyn Barger - Thank you Marilyn, I'm gonna go back one slide before we get to this announcement here.

Desirable Characteristics of Effective Curriculum Review Process Models

Michael Lesiecki - Because I think your process that you that you identify here in these five frames is really the important thing. Let me turn to a couple of questions from the audience, one is you just mentioned it Marilyn you can do this in part by webinars but it's not easy is there a part and I'll ask Marilyn first then Ann is there a specific part you think could be facilitated by a GoToMeeting link or something like that or is there some point you've gotta be face-to-face? What's your sense of what can't work, Marilyn, we'll start with you.

Marilyn Barger – Well I've actually done this once on a webinar process with the our form, review form on the screen and we went through the different benchmarks and standards I'm and a lot of lively discussion this case and it happened to be on machining and there's a lot of back and forth about particularly about how much manual machining was vs CNC machining and what needed to be in that particular framework and it was okay but it was long so I think the problem is that it would have to be broken up into maybe a couple session three or four sessions depending on what you need.

Michael Lesiecki – That makes sense, Ann you've had some experience you know what you think would work for you or what has worked for you.

Ann Beheler - Well first of all the only part that really I think is difficult to do by webinars is the one meeting a year that goes over the KSAs. And really our KSAs are more knowledge areas than skill statements anymore and you can even do that one meeting a year it can be done by webinar now because our business team members know one another. When you're forming this n the first place if the business team members don't know one another they're hesitant to step on each other's toes and face-to-face they can read each other's body language and they're a little bit more willing to be frank and honest, webinars just doesn't do that, it's hard to do that even if you have video it's still hard to do.

Michael Lesiecki – Yeah right.

Ann Beheler – So I just hesitate to do that.

Marilyn Barger – I actually agree, I think that's an important piece it's a lot to be learned and the whole semantics things is much easier to resolve face- to-face.

Ann Beheler - Yeah you know and if they again if they know each other we've got some of them, some of our folks really and I'll say again some of our business folks are really high level folks, we've got the in charge of, the Chief Innovations Officer for Dell on our team, Global IT Director for big firms and such. They have been involved with, some of them have been involved with us for twelve years and they don't miss a meeting, and they've commented more than once that the reason they are still with us is because we listen. They lead we do what they say and they come back, I have asked them numerous times if we didn't, well in fact they've told us, sometimes what did you do about X, Y, Z and we didn't do something about it, and they are like why not, so they hold us very much accountable but they know each other they know us and I think it's easier to do virtual after they know one another. Until they know one another it's very hard.

Michael Lesiecki - Makes sense but you know let's suppose I'm a round three TAACCCT actually one of our colleges are involved in that I might not have that long timeframe to build the relationships but I guess when you do it certainly is worse spending that time investing in those relationships in the long term for your college isn't it?

Ann Beheler - Well on a round three, here's the deal let me touch on sustainability why don't you go to our slides that's gonna talk about our other webinars.

Michael Lesiecki – Okay just a second.

Join Us – All Webinars 3 pm Eastern
Ann Beheler - One of the things we're going to talk about it sustainability and the BILT is definitely one of the thing that's gonna be sustained out of our round one grant it gonna be around for our programs after the thing is totally over and building these relationships for the program for the future is one of the things you can hang your hat on for sustainability. If you don't have the money to bring people in for face-to-face fine you do it the best you can, but I would break it up like Marilyn said because if you don't break it up they're not going to sit still for it, you know four to six hours sitting in a chair watching a video screen uh uh I'm not going to do it.

Michael Lesiecki – That's a good point before we take our final question let's pause for commercial break; friends are you wondering how to locate free curriculum professional development resources join us on April 16th for the next series of webinars. Ann just mentioned planning for sustainability what are you gonna do after that grant runs out probably ought to think about that now, what's it about June eighteenth. Come on back for more effective ways of ensuring business engagement in programs, as you can tell this is a hot topic lots going on here. You can register at ATECenters.org/CCTA that means Centers Collaborative for Technical Assistance. Thank you for that commercial break.

Join us in Portland, OR!
Michael Lesiecki – One more announcement join us in Portland, Oregon this summer if you ever want to go to Oregon, you might as well go in the summer because it's the right time to go, the high impact technology education conference now in its seventh year attracts about 600 people just like yourself community college educators, faculty, 10 to 12 percent business people, a smattering of high school folks come, but they really focus on these issues that span the spectrum of Technical Education it's really a great networking event. As we get into our final announcement let me just go ahead and click the thing here.

Register for HI-TEC and TAACCCT Convening
Michael Lesiecki – Ann you've organized or you're organizing a special convening of TAACCCT grantees on Friday July 31 following HI-TEC, what do you hope to accomplish there.

Ann Beheler - Well before that let's talk about the HI-TEC conference itself.

Michael Lesiecki – Okay.

Ann Beheler – The 29th and 30th the program I happen be on the Program Committee and we normally have about eighty session to occur on those two days and we had a lot of submissions from round 1 round 2 TAACCCT grants maybe one round three TAACCCT grant that's already off to a rousing start and we had way to many submissions to handle we had over 120 submissions for a spot and so rather than turning down a bunch of submissions that looked really, really good, I said hey we have the space why don't we have a TAACCCT specific session track because I bet especially the round three and four grants would really like to hear the from successful grants that have gone before them. Being a round one grant I label myself as a guinea pig all the way we had to basically forage for ourselves, you guys that are

three and four have the luxury of hearing from some of us who cannot only share what worked but we can share what we tried and didn't work so we can save you the bruises. Anyway there will be a TAACCCT specific session track during the entire conference and then on Friday the 31st there will be a convening of ODL TAACCCT specific technical assistance we're gonna cover all sorts of business engagement topics, we will cover sustainability, we'll cover participants from soup to nuts, otherwise from outreach and recruitment through your program your POS, through tracking them through job fairs, through getting them a job, through keeping their employment data, basically all you need to know and its free. We would hope you will come to you HI-TEC stay over Thursday night go for Friday morning it's free, there will be opportunities to talk to people both TAACCCT people and NSF people that know how to help you, so it's just 8:30 to 12:30 that day shouldn't cost you any more than just staying over Thursday night and that's what we hope to accomplish.

<u>Q&A and Contacts</u>
Michael Lesiecki – Ann, that's perfect I've turned to our last slide, folks were at the were actually thirty-seconds over our sixty minute time, not bad here today so we're gonna officially end the webinar for those of you who want to run away but Ann and Marilyn I want you to stay on for just a second we're officially over but why not take one or two more questions if you have a chance and then we will officially end. So thanks everyone for joining us today Ann an interesting question I'll start with you because this related to the computational side what about the existence of existing standards one of the questions refer to the ACM standards the American Computing Machinery society are you might know it, do does that circumvent this KSA process? Do you just simply default to ACM standards or maybe there's other standards that might not have to bother with this KSA stuff even though I like it.

Ann Beheler – No.

Michael Lesiecki - What do you think?

Ann Beheler – Go ahead and do it anyway, okay you're talking about the ACM standards for two year curriculum probably.

Michael Lesiecki – Yeah.

Ann Beheler - Those standards it's been awhile since I've looked at them in detail I actually worked on the IEEE standard for two year programs in IT, but if I recall, well let's not even worry about whether I recall are not what you want to do is take that standard and present them in this same process to your business and industry team, because ultimately the business and industry people are the ones that are going to hire your graduates. They may or may not be familiar with the ACM standard one would hope they are but if they're not, they're not and you still want them to buy into what you're doing it all is about buying in and engagement. So you want them to validate those ACM standards anyway, so go through the whole process do it with them, get them to buy in and they'll still hire you graduates and consider them work-force ready.

Michael Lesiecki - That's not bad advice. Marilyn let's do the final question with you it's the same question what about in Florida as you go through that process that you carefully described, what about the links standards how does that play into what you do there?

Marilyn Barger - Well all of our well not all of our I shouldn't say because some industry sectors that don't have industry standards, but those are aligned and cross walked and aligned to those standards

that come from a industry credentials for example are often looked at side by side and do have some implementation tables available at the Department of ED, some groups have done that aligned very specifically with industry credentials says lines it up to one of the standards or benchmarks. We've done that in the engineering technology area there added as additional documents in the Department of Eds portfolio for particular program and but besides that a different process actually occurs statewide at the first level our industry credentials have to be if they're gonna go for alignment or be used in curriculum actually have to be submitted by industry or an industry organization to the department our Workforce Department which is called Career Source and they vet those credentials they send them to the Department of Education for leveling is it secondary, pot-secondary, or both. Eventually a list that's actually called a funding list because additional funding is available for programs that have students that can get these credentials those go out once a year after this vetting process to the college's and K-12 system and at that point colleges that offered those programs actually assesse the credential the faculty maybe with the industry partners and they determine by looking at the credentials how many credit hours based on that courses that they offer that they would give for that and that is averaged across the state when it comes out there is not usually too much contention, when SME or faculty know the program that know the credentials and that actually is also on encoded so there's that statewide articulation that says X credential is worth three credits or X credential is worth 14 credits and that carries weight state wide for programs that the colleges and school districts set up that offer those programs. So for us it's a pretty rigorous ongoing process that those lists are regenerate every year and checked every year, they come down for credentials so colleges and the K-12 system have to review them for alignment and for number of credit hours and then the process of doing that some of the industry sectors have and the working groups have done a line by line alignment cross walk if you will from the industry credentials to the standards and benchmarks at the state level. So that's a long-winded answer but it's a very comprehension process for us.

Michael Lesiecki – Well a good thank you very much. You know we've actually a managed to get most of the questions just as reminder to those participants that are left you might have to go back to check in your email now unfortunately but we will be sending recorded link to this recording and a PDF for the PowerPoint slides for this recording to all registered attendees let's see today is Thursday will have that out on Monday morning. Marilyn, Ann I wanted to thank you very much extremely well-organized perfectly on time and certainly a lot of information to share. Ann I've got a last question for you it's a yes or no answer and then I'm going to ask Marilyn and then we are going to shut down for today. Ann will there be around five TAACCCT, yes or no?

Ann Beheler - My crystal ball says maybe.

Michael Lesiecki - Okay Marilyn a round five TAACCCT yes or no what do you think?

Ann Beheler - I hear they're looking into it by the way this is Ann.

Michael Lesiecki - Yeah, Marilyn have you heard anything? You might be muted Marilyn.

Marilyn Barger – Sorry I was, I don't know one way or the other, I haven't heard.

Michael Lesiecki - I just heard rumors to. Okay folks that officially ends depending on the fortunes here when we exit the webinar there might be a two question survey that comes up and that helps us improve as we go forward in the series. Ann and Marilyn thank you again colleagues are officially ends our webinar today.