44. Cathi Cox-Boniol: The E in STEM Stands for Elvis

Tonya Oaks Smith
Hey, y'all. Welcome to Beyond 1894 is Louisiana Tech University's podcast. And today we have a multifaceted human being here to talk to her name is Cathi Cox-Boniol. And she is not only a legacy that we love, we absolutely love Cathi. But she is involved with a new initiative out of our College of Education. And it is the region eight LaSTEM Center. And so Cathi, tell us a little bit about what this region eight center is designed to do.

Cathi Cox-Boniol
Well, thanks, Tonya. First of all, it's exciting to be here. And the STEM initiative is really still so new, that it's really fun to be able to kind of let people know what's going on, because we really are just barely a year old. And so a lot of exciting things going on. And we came out of a state wide initiative. So you kind of have to look at this with a little bit of context. Senator Sharon Hewitt champion this way back, she actually was a real live woman in STEM, she comes from industry, and she decided she really wanted to make a difference in the state of Louisiana. So she ran for the Senate, and was elected. And so one of her big areas of focus was stem. And she got on that. And she pushed through until we had act 392. And the whole stem movement came from that piece of legislation. And so its focus at the heart is focused was the creation, the delivery and the promotion of STEM education programs. And I have to say, I think they probably should have inserted the word equitable, because this whole business is about making sure that there's equitable access to STEM science, technology, engineering, mathematics, to all citizens of our state. And of course, primary targets are our students, because that's the workforce of the future. And so obviously, we want to increase student interest and achievement so that they can become part of our workforce. And so to see that this happened, they determined that the best way to do this would be to have Regional STEM hubs, stem centers, if you will. And there were entities throughout the state that were invited to send in a proposal and to become one of those hubs. Louisiana Tech, not surprising to me was on the forefront of this, in fact, Louisiana Tech in they offered up front, we'll just take our 20, we'll take the I 20 corridor, Lincoln parish is in a really unique position because it sits right in the middle. And so we said we'll take out 20. But you know, when you're talking equity, you have to involve other folks. And so we ended up being awarded the region eight LaSTEM Center, which is interesting, because Lincoln parish sits in Region seven, but our major focus is region eight, which is the rural delta of our state. And so that became our primary focus. That being said, we are working in tandem with region seven in Shreveport, so that we can have an ecosystem along the I 20 corridor, that is our goal to have a robust stem ecosystem along the I 20 corridor. And so that's kind of where we came from, how it got here, how we play into this specifically with who we are as region eight. And I guess we can get to how I got back to this here in just a second. Well,

Tonya Oaks Smith
tell me why, you know, a lot of people would say, Okay, I'm not interested in science, technology, engineering, or math, I've got no interest, why should we focus on our students? Or this is pre K through 12? Correct? Yes. Why should we focus on helping our pre K through 12 students have these skills? You know, what are we preparing them for?

Cathi Cox-Boniol
So it's interesting that you're asking me that because this morning, I spent about an hour and a half on a call. And a lot of what we talked about was this, this idea of equitable equitable access, and how kids don't even realize that they need to be engaging in these types of opportunities. We talked about a skills, stem mindset, you know, you don't have to be dreaming of being an engineer. You don't have to be dreaming, dreaming of being a mathematician, you don't have to be dreaming of, you know, a computer scientist, but in the world of 2022. And moving beyond that, all of our students if they're going to be productive, and our society if they are going to be contributing citizens, if they are going to be well informed decision makers if they're going to be able to go pull a voting handle and you know, make good decisions for or their local community or their state or our country, they need to have a stem mindset because a stem mindset is all about solving problems. And you don't have to have just arrived yesterday to know that there are some significant problems that we are dealing with. I mean, we deal with them in our community level all the way up to the global effort. And so it's about seeing those problems being a part of solving those problems. And I would even say being problem finders, that's what we want our kids to do. And it doesn't mean that you end up in a STEM job. But I'm here to tell you that the workforce of tomorrow requires a stem mindset, I don't care what you're doing. You know, we had a really cool exchange with some students out there that were that dawned on them, they wanted to go into hairdressing, and Lord knows we need good hairdressers one look at me today. And you're like, you need a good hairdresser. But they're realizing that that is stem, being able to mix the chemicals correctly to get someone's hair color the way they want it, understanding angles, and how you, you deal with math, when you're cutting hair, it's all around us. I mean, that's just one simple facet of our world. You can't go to the bank without thinking about STEM because of cybersecurity. And because of computer science and all of the skills and internet, internet and information technology that are protecting us. It's everywhere, there's no escaping it. And so we want our young people to realize this is a part of the world that I must engage with if I am going to effectively be a part of this world.

Tonya Oaks Smith
So it also sounds like and I love how much of an evangelist, you know, you are for STEM education. I think that that's, it's, it's wonderful. And it's also wonderful to frame the scientific process as a thing that even if you are like me an English major, and but you still have to engage in the scientific process in order to do what you need to do. And I think that that's, that's what we should probably take away from this.

Cathi Cox-Boniol
You know, it's I was just you were talking about that I was thinking about an experience I had in an airport. And we were trying to get out of there and this family was going out and their little daughter dropped her Princess wand and half of it went down into the air conditioner event. Well, she went crazy. I mean, absolutely. And her parents were like, well, you've just lost your wand. And my husband's like,

No, we haven't lost anything yet. So here goes Tom, troubleshooting with what he had on him, you know, coming through security, he fashion some kind of a stick, I don't even know where it came from. But he stuck something else on it that he could put he rolled a piece of tape whatever else. Anyway, I said that to say he was able to stick that thing down into that air conditioner, man, get the little girl's Princess wand out, put it back together, her tears dried up, her family's relieved everybody's applauding. And that was nothing more than problem solving. It's a stem mindset. I told him after we walked off, I said, you know that you just demonstrated stem to everybody in here because you saw a problem. And you were a problem solver, you know, and so that's a small thing. But if everybody were able to tend to problems using those skills, and that, that still mindset, we'd have a different world rather than people pointing fingers and saying it's no good. And we can't do this, we would be moving forward because everything would be moving in a positive direction. And you know, talking about that scientific method. You know, I'm I came through at a time when there wasn't a big emphasis on that, which is shocking when I think back because I grew up in the 60s when the space race was on. But I think part of it, and I think that's one thing that drives me now is when I looked at what was going on with NASA, I didn't see Kathy Cox, I didn't see where I fit into that. I mean, how am I going to have anything to do with a space program? It? There was no there was no way I saw myself in that. So when I moved into high school in the 70s it was very dry. I mean, it was very dry. There was no engagement. There was no representation. You didn't see women involved in these type of things. And it never occurred to me. I mean, never occurred to me that I would be a player of any kind in anything scientific. I mean, I just did not see that as my place in the world. And it took people who saw something inmate much later. I mean, I had, I had my degree and I had a minor in biology. And that was just because it was kind of interesting, but I didn't envision a future with that. And it took I guess it was it was 1989 Just to be quite frank, I'd been out of school for almost a decade. And people saw something in me that I didn't see in myself and really kind of dragged me into it kicking and screaming and it changed my life. It changed changed my life. And so when I think back on that, I guess that transformation for me, I realized the importance and how it completely altered my trajectory. I want to provide those opportunities for other people but much younger in their life, because then they're able to make a more informed decision. They can prepare, they can select those stepping stones, put those tools in their toolkit, I never had that opportunity until I had been working for almost 10 years. And I was just one of those lucky ones that was not afraid to take advantage of it. But our young people need to see that they can do this. And I think it's important that they have a champion or an advocate, or someone that could says, yes, you can. And I'm going to, I'm going to open this door for you and help you get through it.

Tonya Oaks Smith
So to build on that, what kind of things is is the region eight LaSTEM centered doing your you're offering workshops for students or helping our teachers become more adept at incorporating Science, Technology, Engineering and Math across the curriculum? Tell us about those things.

Cathi Cox-Boniol
Okay. So first, I need to qualify by saying, when people hear STEM center, they think a stem museum or they think a place where kids go and do activities. And that's not what we are. We are not a brick and mortar facility. I'm in an office over in Woodard Hall, I work out of Cytec. I'm part of the College of Education. I have a small office, it's all good. So what we do and building this, this infrastructure, if you will, we kind of started with the stadium, and the funding rolls through a Board of Regents and then we

start seeding programs at satellite sites along the I 20 corridor. Okay. And so obviously, there are a multitude of stakeholders that you can involve in this way and be very strategic as we move forward. Because there are very specific goals that let's dam has, and it has to be connected to workforce, we have to be thinking, how's this going to play into our workforce. And so our name, our informal name is skills, its stem collective for innovative Louisiana stakeholders. So we invite all of these different people in. And so we have post secondary at all levels, we're working with universities are working with community colleges, we're working with training institutes, all these different opportunities, because hey, this is not a cookie cutter operation, it needs to be customized to meet the needs of the partners as well as the people they're serving. So you have everybody from Louisiana Tech to Bowser parish community college, to Unitec Training Academy, I mean, in everything in between. And from there, we move down to pre K 12 systems. And so we have different ones, Morehouse, Caddo, parish, West Carroll, Monroe city, Lincoln parish, they're just all along. We asked them to envision what they see a dynamic robust STEM program, what that would look like where they are. And then we offer them seed funding. And that funding can be for anything from professional development for their teachers, it can be for a summer camp series, it can be our equipment, so they can start a robotics program. It can be a mentoring, Academy, or whatever they want to do. We let them design it. And then they do their thing. And we see how that connects along i twinning. And then we also were partnering with chambers of commerce, with the North Louisiana economic economic partnership, you know, all of these things, cyber.org, it just all folds in together because it takes all of us. So when I tell people about the STEM center, I'm like, don't think you're going to come over and walk into a STEM center with kids running around doing their thing, what we are doing is we are empowering our satellite sites, our satellite partners to do their thing. And then we are coming alongside them to support them. That's one of our big things. We want to provide what they need, we want to support them as they do it, and then build that infrastructure. And then we're doing some other things as well. And we have to partner to do it. Because I'm a staff of one. I've got great people over Incitec that are willing to help but they have their own responsibilities as well. So for example, we partnered with Kappa Delta sorority, and we did a stem thing for Girl Scouts. We partnered with Women in Aviation at Louisiana Tech, and we did a girls in Aviation Day. We partner with libraries, we're starting teen science cafes, we're looking at taking I mean, just all of these different kinds of things, different types of opportunities so that we can reach as many people as possible.

Tonya Oaks Smith
I think that that's it sounds so much like you are trying, you're not imposing our idea of what STEM education should be but a very culturally respectful idea. Yeah, what stem should be that

Cathi Cox-Boniol
came up on that call this morning because one of my counterparts that happens to be one of the southern regions of the state? Well, he just found it baffling that, that this idea of of access was an issue and he's in a more urban environment. And I finally said, you have to realize that not only do we have extreme geographic issues, I mean, you know, we have areas that I like to tease, because I mean, this is my home. And I know this, but where we have to pipe sunlight in because there's so remote. And so to think that an urban environment with public transportation is going to operate in the same way that we have people that are so remote that it would take them hours to get to a site where something's going on, you can't expect the same type of thing. They've not generationally, they've not

culturally, they've not been there. Some of them don't even understand what STEM is. And in fact, that became a big point of discussion at the beginning that what is stem, everybody's got a different definition of what STEM is, yes, we know, it involves science, technology, engineering, mathematics, but is that it? And so, you know, I think what we want people to know is that it needs to be an integrated approach, we need to be focused on skills, it's not my job to make every child in East Carroll Parish, you know, an engineer, but it is my job to work toward opera, offering them opportunities to learn computer science and to know that they can solve problems and to take these materials and build a tower and see that they have these design capabilities, so that they have the opportunities that those urban kids in a southern part of our state have as well. I'm just a get kind of flag wavy about that. Because coming from the rural North, I just think our kids deserve deserve every opportunity that our counterparts in the big cities have,

Tonya Oaks Smith
I would say, especially when you go over into the Delta, how much how little industry we have in that area? I mean, we don't, there's not an enormous amount of industry where we are currently in Ruston, Louisiana. However, as you go west, there is more industry and going east. And in that in that Mississippi River Delta there, that was an agricultural area. And it is it's hard to drive through there now and know what it used to be. And so having having the opportunity to connect these skills that students can get, and they don't have to leave, but they can leave the opportunity is there right to do that,

Cathi Cox-Boniol
right. It was kind of funny to me, we were working on the big list dem summit that we just had in February, so they were going to have an industry breakfast. And they were they were challenging all of us to bring Anders industry representatives from your area. And so people were talking about shale and Exxon and Mobil and all these big petroleum places and building this. And then they said, you know, what do you don't have? And so I said, Well, I have Chris Turner is going to come from, you know, he's a great champion. He's in the House of Representatives, and he's going to be able to come in, they said, Well, what industry do you have? And I said, Well, where I live, it's mainly education, health care, and timber. And it's not even timber like you see in the Alexandria area, which is down in Region six, and said, We don't have that. And I said, the area that I'm serving and region if you know, like a pair six, and seven, and if you go towards Shreveport, there's more stuff going on. But I said my area is agriculture. And it's not even agriculture, like it once was, everybody's trying to redefine what it is you do there, you know, and so we're trying to help them find their way through that. And so we have to be really careful about that. And again, I have to remind folks that that you that you have to look at each region as a unique entity, because it is because of the geography because of the culture. And and the opportunity. That being said, that doesn't mean some wonderful stuff can't go on there. We just have to frame it in a way that allows him to be successful. Right?

Tonya Oaks Smith
Absolutely. So one of the things that we were talking about before we rolled on on the recording here today was the fact that when you were in the classroom, because how long were you teacher?

Cathi Cox-Boniol
I was actually in the hospital classroom almost 17 years before tech hardly the first time.

Tonya Oaks Smith
Okay. And then you so you've been through how many different careers?

Cathi Cox-Boniol
Well, you know, it's all it's interesting. I was just dumb enough not to get out of education, and I just never knew any better I'm I come from that cloth. We just go to work. And so when I started working, and I was a single public school teacher, I mean, I was teaching anything they would give me this was 1981. And so I taught elementary PE I taught high school science, I taught, you know, senior adult exercise I taught anything I could get my hands on there were days where I taught every they'd from kindergarten to senior adult, everything in between I said, and they're like, how did you handle that? I'm like, well, they're all really the same. They're just different sizes. But I did that taught high school science. And that really was an accident. I never anticipated that, like I said, it was my minor. And I did that for almost 17 years. And then I came back to tech, where I was the head of the Center for Applied teaching and learning to yield scientific, I don't know, it's a long word catalyst. And I did that until I went back to the district and headed up the achieve program, which is interesting, what I'm doing now it's kind of like achieve on steroids. Because with achieve, I brought local partners into the public school system to help enrich what was going on in the schools, you know, haven't been in the classroom, teachers don't have the time to go out and rustle this up, they send me an email that call me and I can help them with that. So here, I'm just having to, you know, broaden my reach, and, and do that. And so I retired in 2019, December 2019, pre pandemic, I won't emphasize which was lovely. And then that lasted about two months, retirement just didn't sit well with me. And this opportunity came along. So tech, brought me back, you know, in a part time, positions really full time, part time, because I'm retired. And so I don't want to mess up my retirement. But this was too good to pass up. It's too important. It's in my wheelhouse. I love it. It's my passion. And I'm really excited about what the future holds for this. And like I said, we're one year in. And we've already accomplished so much, to me, it's so much I know, we have so much more to do. And I will say and I'm just going to go on, you know, when I were presenting down at the Louisiana teacher leader Summit, they wanted all the directors to get down. So they met with each of us. And we're just trying to get a sense of what was important. And they ended mine, they said, Kathy, no doubt, you've got to focus on girls and stem, because I kept talking about the different things. And I think that's so important. Because I think girls need to realize they can do whatever they want to. And I don't think that they all realize just the complete buffet of opportunities out there, whether they want to get down and dirty and welding or go into, you know, timber or they want to do, you know, whatever that is, or they want to go and you know, be an astronaut or whatever, I just think they need to think about the possibilities and not be limited by what society may have said previously was the correct definition of a girl's professional journey. So I'm excited about bringing more of that to life.

Tonya Oaks Smith
I think that's it's, it's interesting and amazing to me to hear you reframe, you know, the mission of the organization that you're leading because that's that is important. And and the reframing too we before we started we were talking about you're incorporating Elvis Absolutely. For anybody who doesn't know Kathy is

Cathi Cox-Boniol

Elvis was love child. I mean, we'll just, that's what they call me. Elvis is love trial. Absolutely. And in fact, we've decided that the alien still may stand for ILL possible it does. No kidding.

Tonya Oaks Smith
So you used to incorporate Elvis into your into your stem lessons. So the students did what with that? Listen,

Cathi Cox-Boniol
you find people where they are. And my kids knew that I loved Elvis, that was a gift for my mom, because if Elvis were alive, he'd be the same age as my daddy. And so they knew I loved Elvis and so on the Elvis his birthday, every year, January 8, we do Elvis science, and the kids would find something that was in our scientific world. And they would have to connect it to Elvis. And we had the most fascinating ideas, everything from looking at movement and muscles because of his karate moves on stage to chemistry because of the hair dye he used. For those that don't know, he was a natural blonde, and he dyed his hair to look like Donnie Curtis. And, or light and color because of the jewels that were on his jumpsuit or music because of physics and sound. I mean, it allow them to be creative. And that's a big deal and stem, you know, thinking outside the box, getting creative, you know, connecting ideas. And something as silly as that it was personal to me, it was fun for the kids. It's stuff people will never forget, here I am, how many years 40 years later talking about it. And I think that's a big part of this just opening Pandora's box to the opportunity. How am I going to connect these ideas? How do I make them relevant? How do I make it memorable? And how do I connect ideas that may have once been isolated? And hey, you know, I'm of the opinion, if we're not having some fun doing it. We just have no business even trying it at all. So so far, we're having a great time. And this time next year, we should revisit and see just how much more fun we've had. Yeah, absolutely.

Tonya Oaks Smith
Well, Kathy, thank you so much for being here and talking to us today about STEM education and how important that is to growing our area to end and for our children to be open to those kinds of content

Cathi Cox-Boniol
and I think we probably should just throw in very quick Like to what a what a debt of gratitude we owe to Louisiana Tech for always going after these types of opportunities. I mean, it would have been really easy to sit back and say, well, we don't know what to say is less let somebody else handle it. But in true fashion, we stepped out there, we got the opportunity, and we're, we're doing our best to make the most of it.

Tonya Oaks Smith
So tell us how a teacher if a teacher needs the assistance of the region eight la STEM Center, what's the email address that they should email?

Cathi Cox-Boniol
I think the easiest thing would be either ccox that CC o x or in my husband's Air Force lingo, Charlie, Charlie, Oscar x ray@latech.edu. Or you can email me at region8lastem@gmail.com. But if you just get lost all that call the College of Education, they know where I am.

Tonya Oaks Smith
Well, thanks, Kathy. I appreciate you being here today. And you're you're talking about one of my favorite topics, girls in STEM, and how we help provide an equitable access to education for all our kids. So thanks, welcome.

Gavin Kelly
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