

[00:00:11] Speaker A: Hello and welcome to the Forward Together podcasts. If you're watching the YouTube version of this podcast, you'll see that things look a little different as we're recording from the go, baby, go lab at Wichita State University's John Bardo Center. Go, Baby, Go is a national organization that designs and modifies ride on cars for children with limited mobility, and WSU has been a partner in the program since 2016. Today, my guests are Samantha Corker, who associate educator in the College of Engineering, Bachelor Logan Bill Reuter, a senior in industrial engineering and president of the WSU chapter of Go, Baby, Go, and doctor Jennifer James, assistant professor of physical therapy at Wichita State's College of Health Profession in a board certified pediatric clinic specialist.

[00:00:55] Speaker B: It's great to be here to talk to the go, baby, go folks here at Wichita State. Samantha, why don't you introduce yourself, all of you?

[00:01:03] Speaker C: So I'm Samantha Corcoran. I am an associate engineering educator here in the College of engineering, and I'm one of the founders of our go, baby, go program.

[00:01:12] Speaker B: And you've been university for a long time.

[00:01:14] Speaker C: I have, actually. I started as a student in fall of 2000. I actually took one of your classes.

[00:01:19] Speaker B: Remember that?

[00:01:21] Speaker C: And I graduated in 2004 with a degree in industrial engineering. Came back for my master's in IE as well. And then I was hired on in 2009 as the assistant dean in the college. And then we created the engineering educator program, and I moved to teaching. So that's my career path, alumni path here, and that's what led us to where we are now.

[00:01:46] Speaker B: And a very popular teacher. I know that about you. Oh, thank you, Jennifer.

[00:01:52] Speaker D: Yeah, I'm Jennifer James. I'm an assistant professor in physical therapy, and I've been here for about two years, and I adjuncted a little bit before that, during COVID and actually came here in part because of go, baby, go. It's a really cool program.

[00:02:05] Speaker B: Yeah. I'm glad to hear that.

[00:02:07] Speaker E: My name's Thatcher. I'm currently an Ime major here at Wichita State. I'm in my senior year, my last year, actually. I'm currently the president of Go, baby, go.

[00:02:17] Speaker B: Well, Samantha, I gave a brief kind of overview of go, baby, go and the intro, and I thought maybe you could give us a more comprehensive explanation of the program and what it's all about. What was it meant to be, and where are we at today?

[00:02:31] Speaker C: Yeah, so we started in spring of 2016.

We had been looking for applied projects for students, and it just so happened that John Watkins, who's in electrical engineering, his wife is a speech therapist at Rainbows United. And she happened to meet a professor from the University of Delaware who started a go baby, go program. And it's where you modify cute power wheels cars. You change the wiring, you move the foot pedal from where the foot area is up to the steering wheel with, like, a push button. And we adapt it for kids with disabilities. And so Beth Watkins saw this. She let John know, hey, we need engineers. We want to try this. And so we tried two cars our very first semester. And all of

these years later, we're now at car 180. Almost 180 now. We're going to do a big shindig for our 200th car, I think. But.

So it started as a class project for service learning, and it became so popular so quickly that stature knows. We branched off into a separate student organization. So we're now a registered student organization. And we have engineering students, physical therapy students, even education students from the early childhood unified. They'll be special ed teachers when they graduate. We even have collaborated with our spanish language department here on campus, and they've helped us provide translation services for some of the spanish speaking families that we serve. So students have gotten wants of applied experience translating. So it's really interdisciplinary. And lots of different people from different backgrounds, students are working together, getting this really unique experience to serve kids in our community.

[00:04:23] Speaker B: And, you know, been following it for these number of years, and it's such a heartwarming program. It really is so meaningful to the parents and of kids with disabilities. And just, you see the smiles, and it's just great. And it's also attracting a lot of donors to help. To help support the program.

[00:04:44] Speaker C: It is, yes. And we started off with just a little bit of funding from our college, so we're sponsored by the College of Engineering, but we really, truly run on donations from individuals and from companies. And we have some very outstanding donors who just love to come on delivery day when we deliver the cars to the children. And they get to see, most of the time, happy, smiling faces of kids who are experiencing independent mobility. Sometimes the kids aren't always as excited. They might feel overwhelmed by the crowd. And so we tell the students, don't take it personally if your little pint sized customer cries. They might be overwhelmed. All the people are looking at them as they get in their little cars.

[00:05:29] Speaker B: Well, one of the things I like about the program is we're an urban public research university, and we're here to help our community solve problems. And this is one of those, one of those programs. So it's really great to hear. So, Jennifer, got a question for you. So, while the go, baby, go program lives in the College of Engineering, you're in physical therapy. You're a faculty member in physical therapy. So it's truly, as Samantha mentioned, it's interdisciplinary. So tell me more about that whole process, and how has that been for you as a physical therapy faculty, working with engineers and others that Samantha mentioned?

[00:06:06] Speaker D: Yeah, absolutely. So physical therapy, obviously, is a really good match for go, baby, go, and we are pretty heavily involved every semester, and it's one of our students favorite things. They all look forward to it. We usually have a waiting list for students to be able to sign up and be a part of it. But one of the other things that's great is we have partnerships with communication sciences and disorders students who come. We have undergraduates from engineering, but we've also had undergraduates from College of health professions. We've had undergraduates from business who have been getting interested. And so those students all get to work together, and they have not only faculty members who help advise, but we also have these amazing community partners. So we have community clinicians, we have community engineers. We have other folks in the community, so they're getting to come to a build night, and everyone in the room is from a different perspective. And so for our students, it's so great, because we can always tell in class, I was joking. We just learned wheelchair measurements in class. And the go, baby, go students run the show that day because they've done it, and they'll say things like, oh, but the engineers told us, you really have to think about this. And it's such a great experience for them to have all of that sort of cross pollination of ideas.

What I love about it is it's not just the students, it's the faculty, it's the community. Everybody there is from a different specific expertise.

[00:07:26] Speaker B: And so you said build night. So is that how all of these ones come together in the evening common time, where people are free from classes?

[00:07:34] Speaker D: Absolutely. So sometimes people think that this is like for a class, but the students are here. Some of them are getting some credit in classes, but this is not a classic. So the students are coming after class, kind of whenever they can come. But we have a night a week that we reserve that we call build nights. It's usually on Thursdays. And that is when faculty, clinicians, folks from the community all come to this room. And we are around as the teams are building so that we can see, oh, as you're doing that, we see something you should be thinking about that we've learned previously. Or, hey, let me show you an easier way to solve this problem. Or let's talk through kind of how you're thinking about that. And it's great, too, because with a lot of students in the room, you know, sometimes the person who has the best answer for our question is Thatcher. So we have all of that expertise in one place, and it makes it easier for us to get community folks involved because they may not be able to be here day in and day out with the students.

[00:08:31] Speaker B: That's great. So, Thatcher, you got the best answer and maybe the best questions in the room. So tell me how you got involved in this.

[00:08:40] Speaker E: So, it's actually really funny. So I work at a different place on campus called Project Innovation Hub. We are a manufacturing prototyping space. And my boss and now the director of that lab is Nathan Smith. And he told me that he was an advisor for Govabigo, and he said I could get service learning credit from it. And I was like, oh, sweet, I can do something. But through the semester before I joined Govabigo, I actually helped because we used that space a lot in Gobgo. So I helped with all those cars that semester. I was like, well, this is really cool. And then finally, you know, I got put in. I was thrown in as a team lead my first semester, I really didn't know what I was doing, but through that I learned a lot. And so I could have quit after one semester because I got my engineering plus credit, but I realized the value I got from this was I get to learn not just from engineering like I do in my classes, but I'm learning from the pts, I'm learning from the diverse backgrounds of every single helper that Jen just mentioned? It's just been a phenomenal experience. I've been doing it for three and a half years now, and I have no regrets. And I even got to the point where after my first semester, I told my grandparents about it, which are active alumni here on campus, and they actually are active donors to Ohio now because of that, and they're actively seeking their friends to donate to. So it's been a really cool chain of events.

[00:10:04] Speaker B: And I appreciate hearing about what you said, learning from other disciplines, because we know when we leave the university, we have to work in teams. And life is working at a team. Successful lives are working in teams. That's great that you're having that kind of an experience. So, Jennifer, back to you. What are some of the considerations the designers use in developing these vehicles for the, the clients that ultimately get them.

[00:10:32] Speaker D: Yeah, absolutely. So there's a couple big things. The most important one for us usually is how does this child move? Because the reason they get involved in go, baby, go is because they're probably not moving very much on their own independently. So we have to figure out, first and foremost, what is the part of their body they have the most control over. That is going to be the best way to help them move this car. Often that's their hands. But we have seen kids who drive with a leg switch. We've seen kids drive with a head switch. So our first thing is how does this child move best? And then we have to think about how do we need to support them in the car to allow that movement, to help move the car. So what kind of seat do they need? Do they need specific impact safety for in case they run into something? Do they need extra support to make sure they're not slouching and getting uncomfortable in the car?

What kind of seat belts do we need? And then as another layer on top of that, we have to think about where will they be when they're driving. So is this a kid who's going to take this car to the park and play with their friends out on grass? Because if so, we need a different kind of wheels, we need different kinds of speed. Or is this a child who might use this in a classroom, in which case, maybe it should go a little slower? So we're thinking about kind of all of those layers. How do they move? What supports do they need to move, and then where will they be moving?

[00:11:51] Speaker B: And so is that what the physical therapy folks do, is assess that child? What their limitations are, what kinds of things that they need in terms of their vehicle?

[00:12:02] Speaker D: Absolutely. So we are really lucky that a lot of the time we have a community clinician who has known the child for a while. But then our students, on the first day, we call it meet and measure day, they meet the child and their family, and they perform basically a functional wheelchair assessment. So they use a form that they'll use when they go out into the clinic to measure people for wheelchairs, and they measure all of these different dimensions of the child's body. And then they watch that child play with some toys, interact with mom and dad, and we sort of train them to look at, okay, what is this child moving the most often? Are they right handed or left handed? All of those sorts of things. And then we start helping them brainstorm about what sort of seating solution are we going to look at? And that's great from a PT perspective because we teach this in class, but the students who have been able to do it with a child are so much better at it already because it's easier with an adult who can sort of stay with you. But these kids are not going to do anything unless it's fun or unless you give them an incentive. So we always tell them, if you can measure at go, baby, go, you can measure anyone for any piece of seating and mobility equipment.

[00:13:11] Speaker C: Yeah, it's a moving target.

[00:13:13] Speaker B: So what's the minimum age that you guys look at for this?

[00:13:18] Speaker C: Well, we work with children, birth to five. Well, not infants, but you know what I mean. So children who are able to have some motor control and be able to sit in a seat, you'll notice some of the cars around us. I don't know if we can see behind us, but we have actual car seats that we'll put in cars for kids who need a little more posture support or the younger ones.

[00:13:41] Speaker D: To Sam's point, there are a lot of go, baby, go programs in the country that have a pretty high minimum age where a child might have to be three or four. But that's really against the spirit of what makes the program so great, because most infants start moving on their own at 910. Eleven months, they're crawling. They're starting to maybe stand up on their feet. And ideally, that's when we want them to have this experience of mobility. And so one of the things I love about this go, baby, go program in particular is having the capacity to have car seats and to have engineers who are very good at what they do. We can see children in cars who are a lot younger than would typically get approved and with a lot more complex disabilities. There are kids that we've done builds for at Wichita State that would not get go, big, baby, go cars in most other places in the country, which is awesome.

[00:14:30] Speaker C: Yeah. And that's one thing that sets our organization apart, is that we're housed in a college of engineering with pts coming in. The typical go, baby, go model is it's housed in a department of physical therapy. And then they bring engineers in. And so, you know, the traditional model is, well, let's take one car. Let's have an engineer help us figure out how to modify this one car. Maybe it's a frozen car or a lightning McQueen, and then they make 20 of them, and they find children that are able to drive those. So ours is kind of the reverse model. It's all customized. And Thatcher can talk more about that as well.

[00:15:07] Speaker B: Yeah, well, let's go back to Thatcher. You can talk about that, too. I have another question for you. What is the process of designing from an engineering perspective? What's the process of design?

[00:15:17] Speaker E: So, obviously, Jen mentioned the mean measure. That's one of the first things that we do during the semester. Obviously, you meet your team on open night, but then as you meet your team and you decide, like, when are we actually building the car? About two weeks after that meeting, we actually have our meet and measure, which, as an engineer, it's very important to get all those measurements and understanding what we have to build into the car. It's like, if it's a car seat, well, we can't get a super tiny car because it's probably not gonna be able to handle the tilt because that's a big weight differential.

But besides that, you know, we're learning. Do they need lateral supports? How do we modify the car to have lateral supports? Funny enough, we use pool noodles most of the time for that, but it works really well. But so past that, when you get into a building, that's when you really just dive deep into it. And every car for me has been completely different.

I have never built the same car twice. And that's been, I think, the coolest part. Obviously, there are things that are constant. Like, we put a kill switch on the back of them so the parent can go kick the switch on it, and so it just turns off the car without ruining the battery.

[00:16:21] Speaker C: Technical term is emergency stop.

[00:16:27] Speaker E: So that's really important. That's on all the cars. That's the only thing that's the same across all cars we build. Sometimes a child just needs to learn how to actuate. And they have a car seat. So we do a lap desk. Sometimes we do a push bar that's on this car right here that they can actuate and help some steer. It's really different. It's really team by team. And as president, I try to stop by every team, at least every couple weeks, just to be, how can I help you? Do you need any advice on how to do this? How do you mount a car seat? Because we normally just get a big piece of plywood and mount it straight to that and put it on the. And it works really well. But people are like, really? I'm like, yeah. So it's been. It's just a really cool experience because no car is the same. And I think that's also where I also fix the cars that break down too soon, and so parents with a child will come and drop off old cars, and I've fixed over 40 of them by now. And so because it's not built the same, it's a new adventure for me every time. I'm like, okay, how did they build this?

[00:17:31] Speaker C: And to Thatcher's point, so, after the meet and measure, they have a design meeting, and that's where it's a meeting of the minds, and everybody comes together and figures out, okay, what's our priority? What's the most important thing this child needs? How do we design that? What's the next most important thing? And this is where you really see the beauty of this, because engineers know the design piece, but they don't necessarily know the human body, or they've maybe never worked with customers before, and then the pts know those pieces, but they've never designed. And so we've got pts learning how to use tools in the lab, and we've got engineers who now know anatomy and how mobility works. And it's beautiful to watch the collaborative nature of this program.

[00:18:15] Speaker B: Yeah, well, you know, we're building a biomedical campus downtown with Peyu School of Medicine, the nurse School of Pharmacy, and our health programs here in the college public in WSU tech. So I'm hoping that with that synergy that's developing, will create more synergy for your programs.

[00:18:32] Speaker C: Absolutely. Or, yeah, maybe even more applied opportunities like this.

[00:18:37] Speaker B: So I've noticed that these several of these different models of cars. So how. And, like, this one down here, I don't know if camera can see this one down here, this way. There's a car down here, stickers on it and everything.

How's that selected? Do you guys talk with the parents and the child? And they say, oh, I'd like to have that, or some of them are too young to know what to get.

[00:19:00] Speaker D: Part of what we're asking, what are these kids' favorite things? Because for some of these kids, they may be nonverbal, but whenever Bluey is on, they have a big smile and they're more engaged. And that really is part of that consideration from the clinical perspective, because if the child doesn't like the car, it doesn't work as well. And one of my favorite builds that we ever did was we had a child who really didn't like putting weight through his feet, which is really important from a PT perspective. And so our group was kind of throwing around, like, how could we help make that make more sense? And Thatcher actually figured out how to put.

I don't know the specifics of how he did it, but a plate to where when the child put weight through his feet. It played a song that the child liked, which was so great because from a PT perspective, we had no idea that was possible. But it really is helpful.

[00:19:51] Speaker B: Yeah. So some of them have mp3 players and different kinds of technology.

[00:19:56] Speaker C: They're high tech. I'm so surprised what they put in these little cars.

[00:19:59] Speaker B: So, Samantha, let's kind of wrap it up with you. And so tell us, I'm hoping that just doing this podcast that shed some more light on your program, get more people interested in it, help support it. So tell me how people can get involved more on this if they'd like to participate, things that people can do.

[00:20:18] Speaker C: Yes, absolutely. We're always looking for more students to build. And so we have a, we have a website, we have a social media presence. It's just WSU, go, baby, go. And students can sign up to participate. And it doesn't have to be just an engineering student. It can be any student on campus who wants to help kids in their community. And so we would love for more students to sign up. We will often go and talk with different community therapists, clinicians like Jen mentioned, and make them aware of what we're offering, because it may help some of their little clients.

And then as far as supporting our program, we love to have donors come in and get to see the whole process. So it's not just giving money and walking away. We involve anyone who gives to our program. And so they get to see it from start to finish and be there on delivery day, get to meet the family and the child that they're supporting. We have two different giving levels for the car. So a car like this is around dollar 400 to dollar 450. And so that supplies the car as well as all of the materials, pool noodles, like Thatcher mentioned, all of the wiring and the electronics that we need to put in it. And so this is kind of our base level. But for kids who need a lot more complex, they have more complex needs and they need more support or maybe even a joystick, something that is more technical. Those run around \$750 for those cars because we tend to get the three axle cars, not just a two axle car, so that it can hold a car seat if needed. Or again, if it's a complex joystick, that takes a whole other level of effort there. And so that's \$750 for those higher tech cars.

[00:22:11] Speaker B: Yeah, well, I mean, to me, that seems like a really reasonable amount for

people to actually. Oh, I could give to that.

[00:22:19] Speaker C: Yeah.

[00:22:20] Speaker B: I mean, it's a significant amount, but it's not thousands of dollars to help makes a huge impact. Well, it was really great talking to you all, and I can really feel the enthusiasm for this program and these projects that you're working on. So thank you so much for being on the podcast today, and we'll be watching from my office and seeing how this goes forward.

[00:22:43] Speaker C: Sounds great. Well, thanks for taking your podcast on the road.

[00:22:46] Speaker B: Yeah, this is fun. It's good to see you all.

[00:22:48] Speaker E: Good to see you.

[00:22:49] Speaker B: And thank you all for listening. Join me next month when I talk with former student body president Iris O'Keery. And please be sure to rate, review, and subscribe wherever you listen to the Forward Together podcast.

[00:23:00] Speaker A: Go shockers.

[00:23:10] Speaker D: Sponsorship for the Forward Together podcast is provided by Scott Rice, office works and the Shocker store.

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