Details

Using STEM Kits to Support Hands-On Learning - Bonus Episode with OmniPro
In this ISTE Spotlight episode, I'm joined by Ranjan de Costa, CEO of OmniPro, and Ed Meyer, Sales Manager at OmniPro for a discussion about the importance of STEM education. You'll hear about hands-on learning for students, including how to use STEM Kits in the classroom.

Show notes: https://classtechtips.com/2023/07/09/STEM-Kits-bonus/

* STEM Kits

Introduction

Hello there and welcome to today's episode of the Easy EdTech Podcast! If we haven't met before, my name is Monica Burns. I'm a former NYC public school teacher and I've been out of the classroom for a few years leading professional development for teachers, and writing about all things EdTech on my blog ClassTechTips.com

You might be used to joining me on Tuesdays for new episodes of the podcast, and today is a special bonus episode in partnership with OmniPro. I'm excited to bring you another special bonus episode on a Sunday.

Before we jump into today's episode, a quick reminder — you can head to my website classtechtips.com/podcast for all of the show notes and resources from today's episode, and if you're listening to this episode on a podcast player like Apple Podcasts, Spotify, or Google Podcasts, you should see a link in the description that you can click on as you listen today and it will take you to all of the resources I mention.

Promotion/Reminder

This episode is sponsored by OmniPro. A partner of MagicBits, MagicBit's STEM Educational Kits are made for coding, robotics, Internet of Things (IoT) and electronics.

Today's Intro

Today's episode is titled "Using STEM Kits to Support Hands-On Learning - Bonus Episode with OmniPro" I talk with Ranjan de Costa, the Chief Executive Officer and Ed Meyer, a Sales Manager on their team about the importance of STEM and what it looks like for students to get hands on experience.

Episode Transcript

Monica Burns:

Welcome to the podcast. I am so excited to chat with you both today about STEM education, the power of STEM, STEM kits, and how they can support student learning. But before we get into that part of our conversation, would love to hear a little bit from you both, you know, what is your role in education? What does your day-today look like?

Ranjan de Costa:

Great. thank you, Monica. This is Ranjan de Costa, the founder, and CEO of OmniPro, based here in San Francisco with officers in Rochester, New York Ventura, SoCal, and West Chicago. We've been in business since 1991, so 32 years now. And primarily our focus in our business has been education K through 12 and higher ed. We do business in other areas as well, but this has been our focus. We have, we are very honored and happy to state that we are one of T-Mobile's elite partners. I think one of three or four they have. So they the reason for that is we do a lot of connectivity with them, with, you know, specifically after covid distant learning connectivity was an issue. So they provide the connectivity and we provide the Chromebooks and laptops for the kids to take it home and study.

Ranjan de Costa:

So that is a little bit tough for who we are and what we do. We have a pretty good base around the country, actually in a lot of states where we deal with a lot of K through 12 school districts, and we offer a bundle solution. We are not a box shipper, we are a solution provider. So we provide white glove services wrapped around with a comprehensive warranty policy for the schools. And we do a lot of handholding as well. If the schools want anything, we have our team, you know, ready to answer any questions they have. That in a nutshell is who we are and what we do. We are a Lenovo Platinum partner, which means we get preferential pricing on Lenovo. We are also with the Lenovo HP, as well as Dell. So the three large OEMs. Mm-Hmm. <affirmative> whom we have partnered with. And I'll ask Ed to see Ed is Ed Meyer is our sales director. So he interacts a lot with the school districts since we are focusing on the education here. And Ed would you have a few? Sure, sure.

Ed Meyer:

Yeah. Thanks, Ranjan. Yeah. Hi, my name is Ed Meyer. I'm the sales director here at OmniPro. Been working with Ranjan and Krish and the, the, the gang since 2015. And it's been a really amazing development to see the company, kind of, you know, with the partnership in T-Mobile in 2017, we really kind of grew from, you know, a bay ar bay area focused company to a nationally focused company. And that's been just a, you know, very exciting development. And like Ranjan said, I worked directly with the schools a lot. You know, I, I I, but I also work with the T-Mobile reps and the OEMs. So I'm kind of trying to figure out when we can get stuff in from, from overseas, what's the schedule gonna be, making promises or, you know, assurances to the teachers on, on when we'll have their stuff to be sure that they've got it for the beginning of school, and kind of then doing my best to, to make sure that that actually happens. And for the most part it does. So, you know, that that's, that's kind of, you know, our days are varied, but that's, that's what it's, it's basically dealing, dealing with people in all three segments throughout the day to make sure that things work smoothly as possible.

Monica Burns:

Yeah. And making sure everyone has what they need, right. For a Yes. Successful school year. Exactly. Exactly. So, you know, and we're talking today specifically around STEM education, which for many listeners is a familiar term, right? Something that they have experience with or explore different types of, of resources for. But would love to hear from you both, you know, given your experience, why do you believe that STEM education is important?

Ranjan de Costa:

So currently what they say is that we are now in industry 4.0, right. STEM and the technology is changing rapidly as we, as we all know, right? With AI and various things coming in to the marketplace. So it's pervasive based on the, you know, the homes and the schools and the industry specifically, right? Where STEM has been introduced STEM, as you know, is science, technology, education and math, right? Which is now department of Education has mandated that it be a part of the curriculum. Mm-Hmm. <Affirmative> in K through 12 schools. STEM specifically is focused for kids eight through 13, I believe, which is grade three to eight. Specifically, that's what they have done. The World Economic Forum in 2023 predicts that the skills needed for future generations would be critical thinking, right?

Ranjan de Costa:

Mm-Hmm. <Affirmative> and thinking outside the box because of the competitiveness in, in, in the kids, right? So they have to think, and that's where STEM comes into play, not just looking at something they have to think, be creative in what they're doing, whether it's coding, whether it's programming the engineering part of it at that young age, right? So this generation is being educated for the future. What is going to hold? That's that is one of the reasons that the Department of Education, in fact, recently released 87 million dollar for STEM education, just just the basics for it, right? Mm-Hmm. So that in a nutshell is and it, it provides a lot of opportunities for kids you know, when they, when they do all this stuff. And that's, that's how these kids can think outside the box and be creative.

Ed Meyer:

Yeah. Yeah. I think that's Ranjan hit it right on the head. You know, I think for better or worse, the robots are taking over. So, you know, we might wanna, for, for the future generations, you're gonna have to learn how to interact with them. If, if you want to, to be useful and, you know, STEM, that's what STEMs all about. You know, I did, I do not have a technical background, and it, it, believe me, I wish I had, you know, in those early years out of college, it was, it was difficult finding a job. So I think there's kind of long-term, you know, way to look about, about the, the future of the world. Like we're, we, I don't think we have enough doctors going forward, so we need people to, to learn about, you know, got the STEM base so that they can become the medical practitioners in the near head to take care of, you know, the aging population. But there's also, you know, very personal things for people. Like, you know, how are you going to support yourself over the next, you know, you know, 20, 30 years you're gonna have to find a job. The economy is changing and, you know, who knows exactly where it's going, but it's gonna have a very big technical component. And if we wanna give our kids a chance to, to compete, they have to learn early on.

Ranjan de Costa:

Yeah. And strangely, they're calling the, the, the kids today I think it's called a Generation Z and Alpha. Yeah, right? Zoomers. So that's like a, a buzzword today, <laugh> with this, with these kids in school. So that was one of the reasons we wanted to bring STEM into our product portfolio. Mm-Hmm. <Affirmative> is to have a complete solution when we talk with the schools

Monica Burns:

And the critical thinking component that you both mentioned, right? And the changing job market that you both alluded to, right? There's a lot of aspects here of in-depth STEM education that really can support students for the unknowns, right? Maybe it is the robots taking over the world, or at least changing, right? Right. The way that we think about the way we interact in different spaces. So getting kids ready for this future that is here now, <laugh>, you know, can involve these hands-on learning experiences. So I'd love to hear a bit about STEM educational kits, right? How does that really facilitate a hands-on learning experience for students?

Ranjan de Costa:

So this is what they call activated based what do they call it? Activity based learning, right? So it's not just reading a, a book or answering a question. Mm-Hmm. <affirmative>, they have to active actively create things using the, the STEM products, right? How do I get this to give sound? How do I get it to do the lighting? How do I get the robot to spin around, you know, there are so many aspects to it, right? So that is where the creative learning comes in. And the kids at young ages can, obviously there is, there, we, there is a nice a guide a guide to the kids, right? This is how you do this. And I hear, at least what I have read, I have seen that some of the STEM technology has been used in some of the robots they're using today.

Ed Meyer:

Well, also the kids have the kid, the kids have a little bit of a, of a, they remind me of, of like, you know, Legos almost, it's something that the kids are gonna want to play with. It's not gonna seem like, you know, math homework or, or, or whatever. There's, there's gonna be a, you know, a, a play aspect to it that I think you know, I, I know I would've benefited from <laugh>, you know, every time I took any sort of coding class, it kind of shot right past me. But you know, the, the, the playing aspect, I think is, is crucial to get more kids involved, not necessarily the front of the class kids who are, who are gonna pay attention to everything, but the kids in the back who maybe you, you lose faster.

Ranjan de Costa:

Yeah. And I think the other thing, Monica, is that they grasp the creativity faster. And they can the, the qualities are nurtured well. So coding, using Python I think it's a step-by-step video tutorial, which comes with the, with the STEM product where they can use a lot of that and created themselves, right? Just use it as a guide without going into the guide as such. That's how the MagicBit has been formulated, is to make sure that though they have a tutorial that they have to think outside the box. Mm-Hmm. <Affirmative>. Yeah. They can, how do I do this? How do I do this? How do I code this? How do I do that? If everything is given to them, then

Ed Meyer:

There's no, there's multiple, multiple ways to do things. Yeah.

Ranjan de Costa:

Multiple layers to do things, right. So that's, that's pretty much it's, it's interesting when you read more about STEM, how the kids can really benefit out of it in today's marketplace.

Monica Burns:

So it sounds like with the support that an educational kit, like this, right, a STEM educational kit would provide for an educator who's implementing this in their classroom, or for students who are exploring things independently, it gives them some level of structure and support, but still that flexibility to go out and make something of their own right. Or, so that foundation, right. That core component. So I'm curious, you know, do you have, and I know you mentioned a few different cities that you're located in and, and implementations across the us, you know, can you share a success story from a classroom or a school, or even at the district level where this type of hands-on learning experience, this STEM education infusion really made a <inaudible> on students' learning experiences?

Ranjan de Costa:

Yeah. So magic before I jump into that, MagicBit includes what they call an L M S. It's a learning management software that assists the kids in in in learning all this technology, right? Yeah. It's pretty much self-learning, right? Mm-Hmm. <affirmative>. And the other thing I would like to, before I jump to the next question I would like to mention, is that the STEM has been built where three to four kids can use one kit.

Monica Burns:

Okay?

Ranjan de Costa:

So the reason they have done it, Monica, is that then you have a team together rather than doing it yourself. So if you have four, four kids in a classroom doing it, now you have four brands looking at the different aspects of how to build the technology. Right? So so Steve, why did you do this? Why did you do that? And then he or she can explain, this is why I did it, so mm-hmm. <Affirmative>, they have built it so that four kids can use it together so that they spread the, the, the knowledge across, across the four of them. Mm-Hmm. <Affirmative>. And

Monica Burns:

So, as you are, you know, thinking about the connection to problem solving, skill building or, or some of the things that are happening in classrooms with this STEM connection, I'd love to hear a little bit more about MagicBit and how it can really help kids dive into what we've talked about today, right? The critical thinking component. Yeah. The problem solving skills. How can it help students explore these foundational STEM pieces?

Ranjan de Costa:

Yeah. So MagicBit the STEM education at Kit is a good example. It's pretty versatile. There are other, other products in the market, but where they where they stand above the rest is the lms. That's one. Their product is more how would I call it? I think he the programming the programming part of it, the robo, and of course iot, the Internet of Things (IoT). And mainly covering the technology innovation part of STEM education. So it's made basically for, though, they say it's made for K through 12, it's actually K three through eight. That's the MagicBit. Mm-Hmm. <Affirmative> cause they want to focus on the eight and a half to the 13 year olds, and it is being introduced. Right now, we personally don't have any ex not experience, but we have met experience.

Ranjan de Costa:

But using the STEM with our product line, this is something we are launching right at ISTE mm-hmm. <Affirmative>. So so those are some of the salient features. STEM has, the price point is one, obviously. Mm-Hmm. <affirmative>, the fact that they have certain technological advantages over the over the competition is, is another it's a plug and play module concept. You know like I don't know if you can remember maybe long before your time, remember the Meno sets, <laugh>, I don't know if you can remember Mechanical. It was a British product. It was all pieces together. You had to put, you can build your trains together. It was not STEM, but it is a similar concept. And the main circuit board, which computers do not have. Okay. The main circuit board, right?

Ranjan de Costa:

10, they have 10 plugable modules. Maybe if we have one, we can just show Monica, but it's, it's yeah, it's only recording, right? So mm-hmm. <Affirmative> some of the competitors we have looked at, don't have that amount of plug and play module. It just does a board that's, that doesn't make sense right here. The kids can take the products out, put it in, they can put it in different ways, see how the technology works. Okay. Now, if I want to get the lights to blink, how do I do that? Right? If I want to get the robo to stand up and go just on his back two wheels, how do I do that? So that type of creativity stands out with MagicBit to their competition. I think I'm pretty accurate to say that Monica mm-hmm.

Monica Burns:

<Affirmative>. And so it sounds like there's a lot of flexibility there for students Absolutely. To take an experience in different direction for teachers to be, you know, by their side, but also give them that space to create something that just isn't, you know, wouldn't be possible without these extra supporting resources within the STEM kit.

Ranjan de Costa:

Yeah, exactly. Because when they they have a certain curriculum, right? So on they, they have access to the curriculum. So the teacher can say, okay, you guys build this circuit board today, program the robot to to throw play music. Mm-Hmm. <Affirmative>, right? So that gives them a challenge. Right? Now, how do I do that, right? Yeah. They have the learning, they have the tutorials are there, right? So they can look at that and do it. I saw, I was watching a video

where this kid is like seven or eight years old, but he was programming and getting the robot to spin all by himself, right? And so that kid maybe, you know, he is like, you may be a little higher than another kid, but that was interesting watching that video is how he was doing it. And, you know, he, this, you know, he, he was like playing with a toy, actually. Mm-Hmm. <affirmative>, but it was not a toy. His brain was thinking all the time, how do I get this to turn, how do I get it to turn left, right? Then go straight, then go up on the wheels. He was doing everything.

Monica Burns:

Yeah. So a lot of deep thinking using prior experiences perhaps. Right. Or that more free play opportunity to then say, I've got a challenge. I'm working towards this. Right. And, and really having a, a goal in mind. So, exactly. I've got, I know we're on audio today, right? So holding up something in front of our screen is a little tough for listeners who might be in the car or on the go, but I know I've got a great link to a YouTube video that your team shared that helps really bring some of these pieces to life that I'll make sure to link out to so everyone can find it and, and see some of these things in action too. So, you know, that gets me to my last question here, which is, where can people connect with you? Where can they learn more about this work or learn about MagicBit and maybe even see it in action?

Ranjan de Costa:

Yeah. So we you know, they can contact us OmniPro.com. We will have it on our, on our website.

Ed Meyer:

Yeah, we're, we're also thinking about, it's, we're thinking about bundling one of these kits into some Chromebook purchases. So customers who haven't had a chance to get it, we'll, just, we'll, we'll kind of basically, you know, first one's on us, so, so, so they can kinda play with it themselves.

Ranjan de Costa:

And, and the other thing, Monica, is that when you take, you know, the box the unit out of the box, they're, they come pre-configured with some examples for kids to experiment with

mm-hmm. <Affirmative>. So it'll, they'll have about three or four examples, right? I say, oh, this is cool. Now what gets them thinking is the example will ask them, okay, so I've got the robot turning left. Now how do I, it's pre, pre-configured. Now how do I turn it right?

Ranjan de Costa:

That's where the thinking comes in. They can look at the tutorials, they can look at the, all the examples there, but it gets them thinking now, oh wow, this is only turning left. Now how do I turn this right now? They jump into it, okay. I think if I do this, if I you know, do this, this, and this, it'll turn right. So it's all thinking, it's nothing but thinking. That's, I think you know, as I said, generation, what they call Generation Z and alpha, right? Mm-Hmm. <Affirmative> in today's world kids that's, that's how pretty much how they will, that'll define everything moving forward.

Monica Burns:

Well, and I appreciate just that context, right? And that illustration of what's possible and what teachers can even try out themselves, right? If they're able to get their hands on some of these resources. And I will make sure to link out for listeners so that they can connect with your team, they can learn more about your work. But thank you both for your time today and for joining to, to chat about STEM education.

Ranjan de Costa:

Thank you. Thank you, Monica. And I hope we answered all your questions. And we hope the, the listeners will find it intriguing about the new technology for the kids and would be, and other, what, what we get out of it is that we'd be honored to be a part of our kids' future and, you know with their learning ability and the tools, and we will provide the tools for them to learn. And at the end of it, you know, it's their future, right? For generations to come. And I dunno, 20, 30 years from now, what is going to be, not STEM, it'll be something else, right? So, so thank you for that

Ed Meyer:

Robustly programming us. Yeah.

So let's make this EdTech easy with some key points from the episode…

Critical thinking is an essential skill.

STEM education prepares students for the future.

STEM kits can foster unique, collaborative learning experiences.

Remember, you can find the shownotes and the full list of resources from this episode on classtechtips.com/podcast including all of the ways to connect with the team at OmniPro.

Promotion/Reminder

Again, a big thank you to our sponsor for this episode, OmniPro. To learn more about MagicBit's STEM Educational Kits, please visit https://MagicBit.cc/.

Outro

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Episode Resources

- Explore MagicBit's STEM Educational Kits
- See MagicBit in action on YouTube
- Learn more about OmniPro on their website
- Connect & follow OmniPro on Twitter & LinkedIn