

Transcript

3:05:43 pm - You:

My name is Tim wilhelmus and I'm doing a podcast for Indiana learning and Today we're gonna be talking about making and makerspaces and what all that is. So I brought together a group of friends of mine who will thing or two about that. And so I'm gonna invite them to introduce themselves and tell you a little bit about their connection to this mysterious making So, so you how about you first?

3:06:27 pm - Sylvia Martinez:

 Sure, I will go first my name Sylvia Martinez, thank you, Tim for inviting me to join today. My background in making is as first join today. video game designer. And then I got involved with helping And then I got involved with helping schools, make more practical creative about stem and steam and then I about stem and steam. Martinez. me to join today. My background in making is as first join today. video game designer. And then I got involved with helping And then I got involved with helping schools, make more practical creative about stem and steam and then I about stem and steam. as a aerospace engineer, and then a My background in making is as first video game designer. And then I got involved with helping schools, make more practical creative and relevant spaces for kids to learn about stem and steam. And then I will, I co-authored a book called invent to learn making an engineering in the classroom, which will came at a time when a lot of educators are really thinking hard about how to do making in real schools, and all this amazing technology was just exploding on the scene and that just really brought me back to my engineering And then I will, I co-authored a book called called invent to learn making an engineering engineering in the classroom, which will came at a time when a lot of educators are really thinking hard about how to do making in real schools and all this amazing technology was just exploding on the scene and that just really brought me back to my engineering roots and Gary Steger, my co-author and I have been all over the world, talking to schools about how to do make Basis and it's been a completely amazing journey schools are doing amazing things students are doing wonderful things around the world and I'm just happy to be along for the ride and and really happy to be here today.

3:07:37 pm - You:

 Cool. Nick. How about you?

3:07:40 pm - Nicholas Provenzano:

 Hi, I'm Nicholas probinsyano. Thanks again, Tim, we're having me out here and I'm very honored to be on with faith and Sylvia. These are some amazing experts and maker Ed doing amazing things. I've been following their work for as long as I could. Remember, I started off as a high school English teacher who really started to explore Project based learning as a way of assessing my students and that led me to makerspaces, which, you know, for me was about giving kids access to tools to, you know, dive deeper into their understanding, or At least making understanding of things that we were covered. So for me, it was an uphill battle explaining to people, why an English teacher needed a Makerspace, and why English students needed access to a Makerspace. So, from there, I wrote a couple books about building Makerspace and you maker at a special in the ELA world and then I'm a current job. Four years where I was asked to build the maker space and be a make resist director at a independent school here in Michigan. That is a project-based learning school. It's all about making and designing and it's K-12 and it ends with a senior Capstone project, it's all about really designing and solving problems. So I really got the dream job of, you know, a maker Ed person where I'm just

surrounded with teachers that are like-minded about making and that parents most of all are setting their kids here because they believe it's so important. So yeah, I'm very lucky to be here. Thanks for having me guys. And I'm excited to learn from everyone here as well. And not just share, so I'm excited for the conversation.

3:09:12 pm - You:

 Very cool. And last but not least. My buddy faith.

3:09:16 pm - Faith Plunkett:

 Hi guys! My name is Faith Plunkett. I'm an instructional technology coach for Decatur City schools in Alabama. I fell in love with making about eight years ago when I started teaching computer science to students kindergarten through fifth grade and I realized there's such beauty in getting kids to code, but letting them make it the same time and blending the two together and using the technology for good to change the world. So that's how I fell in love with makerspaces. And I had a Makerspace my classroom and then I actually know Tim, because we worked together for edcamp magic and we created a Disney theme maker space and Eddie can't magic. It's epic, it's my favorite. It's the highlight of my summer every year and now I Services an instructional technology coach. So I get the work with teachers on integrating making into coding and All kinds of Technology things. And I also run a teacher Makerspace here in my district that we've created called the spark lab, and the whole goal to sparklab is to get teachers excited about making and creating creating that spark in them. So that they go back into their classrooms and bring that excitement to their students,

3:10:14 pm - You:

 Very cool. Thanks for the shout out, by the way, to the Ed can't magic also I highlight for me for sure. Okay guys. Um you know so this podcast is about introducing people to ideas that maybe they have heard about they maybe don't know a whole lot about. So I think it's probably best to start sort of with the, with the basic. How do we Define? Making and maker education, like what

3:10:41 pm - Nicholas Provenzano:

 it's

3:10:42 pm - You:

 Like, what is, what does that mean?

3:10:47 pm - Nicholas Provenzano:

 Such a big, that's the big one. That's the that's like, whole classes are taught on like this. There's a whole books. I think we've all books about these things. I I guess I'll give you sort of my approach to it. I think all of us have a slightly different take on it, which I think is so important because that's sort of what making is, right. It's a little bit different to every single person to every single student, every single teacher for me, you know, I look at maker Ed is giving students and particularly the opportunity to create something to demonstrate their Mastery or understanding of something. And it's, I know it's really broad but, you know, as again as an English teacher that was my whole argument was I wanted kids to be able to create to demonstrate the understood something. And that's something could be, you know, the plot theme, you know motif of a story and they wanted to create and make something magnificent. It could be a traditional science class where it's like you're doing. Chemical experiments to show that you understand you know the concepts covered in class.

So you know for me it's the emphasis that making can be anything, if the kids are creating, the kids are making. We want to support that.

3:12:00 pm - Sylvia Martinez:

 Yeah, I I totally agree and I want to do a both and because everything you said is true and there's so much more, you know, we can we can look at making as a way of making sense of the world of letting kids have experiences that allow them to make their own sense of things and that can happen across a number of disciplines across all ages. And as Nicholas says, very often connected to Project based learning. Now, it doesn't have to be, you know, that's a conscious decision. And it's certainly not about the stuff. You know people people always tell me my principal bought a 3D printer and nothing happened. Well, aha, you

3:12:42 pm - You:

 Yeah.

3:12:42 pm - Nicholas Provenzano:

 Yeah.

3:12:42 pm - Sylvia Martinez:

 You know, You know, we're gonna told you that that nothing would happen. There has to be a conscious decision to to understand what that 3D printer gives you, which is designed Precision, the mathematical abilities of making something, making it precisely making it repeatedly making it to be able to share with other people. And the maker movement has a number of Technology tools that allow you to bring that those kinds of attributes to Bear to parts of the curriculum that have always that have been paper and pencil, and therefore, and boring, you know? And here we have this amazing technology that we can bring into schools and say Here's how fractions really work. Here's what ratios really mean, here's how you design something that's never been seen before. Every what you have in your head can become real in the world. That's an extremely powerful. For kids to understand and it's how real scientists and real engineers and real historians and real musicians work. So I find that maker pulls together. A lot of these really desperate goals that we have as we dream about. What we hope is the best thing. The best school could be

3:14:00 pm - Faith Plunkett:

 I agree with all those. And I think the biggest thing is getting people to realize that it's a shift in education because I think so many times in education, the kids grow up with the mindset of oh, I can only choose ABC or D on the test. And they don't have the opportunity to grow and to think and to create. So it's so what Nicholas said about going back to the project-based learning and letting them make and create their answers and knowing what they know, you know, through building and tinkering and creating I think it's so important.

3:14:31 pm - You:

 You know, I'm you all are making me think of a few things, you know, I've kind of been on this journey as well and you're you're hitting some notes that are so important to me. I mean obviously the creativity piece that just the joy that comes from the action of creativity you know, creates engagement. I feel like so there's that piece and then there you know there are all these soft skills that Happen. Because we're giving kids opportunities, to make choices to sort through a problem and come up with a solution and in, and in the act, you know, prototype that solution. So, just just

the act of going through that process, you know, hits problem solving, and communication, and wondering. And, you know, and curiosity, and all of these other pieces that are cool. And then, you know, I also do think that it is It's almost a permission thing too, right? That we're giving that that shift in education means that we're handing over to kids and opportunity to do something authentic or to do something that that opens a door for them. So I thank you all for those insights on that. My next question then is about makerspaces because we've that's come up a couple of times already in our conversation, but what is that mean?

3:16:11 pm - Nicholas Provenzano:

 Well I guess I'll say that. Okay I'll tell you what, it's not about that I'll start with that. It is not only a physical space you know that's sort of like the big misnomer of Makerspace is that you assume it has to be a physical space. Now it can be like there's something wrong with it being a space. I'm very lucky to have a space that was able to carve out that's dedicated to design. In prototyping and Fabrication. So I have sort of like, these physical manifestation of like a design process, right? But a makers Miss could be a cart that is wheeled around with tools that kids have access to. I think it was Gary Steger. I think he said that the Makerspace is between your ears, right? Is that idea, right? Yeah, like that it's anywhere and everywhere that you create. create. So I used to say the kids that used So I used to say the kids that used and knit that was their maker space and knit that was their maker space We're ultimately students feel comfortable to create and that's, you know, a maker space like I have is the physical space to do that but really make create. So I used to say the kids that used to sit in the library on the chairs and knit that was their maker space like that was their space. We're ultimately students feel comfortable to create and that's, you know, a maker space like I have is the physical space to do that but really make a spaces is a culture. create. to sit in the library on the chairs and knit that was their maker space like that was their space. We're ultimately students feel comfortable to create and that's, you know, a maker space like I have is really make a spaces is a culture. Does your school support, the idea of giving kids comfortable spaces as a teacher in the classroom and common areas to create things? And you know, that's the culture that you're trying to create. So make your space. Well can be a physical Space is really more about a culture that supports student creation.

3:17:40 pm - Faith Plunkett:

 Yes, I agree. I think the word culture is much better fit than a mindset but it's also. Yeah, a mindset of hey, you can make and create anything you want, so whether you have a device in your hand, you have pencils in your hand, you have whatever you want, you have the ability to create and dream and imagine, and Think of the future.

3:18:00 pm - Sylvia Martinez:

 I I think you guys are are so right. You know, a lot of schools get caught up in the space and and don't think about what the kids are actually doing. Like, look, I I get that something, they're expensive or dangerous or need to be locked up or you don't want kids, taking handfuls of microcomputers home, you know what to do, you know? So, you know, there's all that tension. Um, that look most cool solve, right? They have Studios, they have libraries. They, they sort those problems out, can go somewhere and get the materials they need or that teachers can can come and go, you know, is as much more important that having the space because, you know, I think there's a the negative example of history is the computer lab where the computer lab where problems out, but that the students can go somewhere and get the materials they need or that teachers can can come and go, you know, is as much more important that having the space because, you know, I think

there's a the negative example of history is the computer lab where When computers were put in schools, everyone thought oh this is wonderful. And a few teachers have them in their classrooms and then someone had the great idea like what's gather them all up put them in one place and then kids will go visit the computer lab. which made them separate, which made

3:18:59 pm - Nicholas Provenzano:

 He?

3:19:01 pm - Sylvia Martinez:

 them, you know, something that you're that you're studying. Rather than as integrated into your practice, it gave the rest of the school school, an excuse to say, okay, we've done computer and then the rest every other classroom stays

3:19:13 pm - Nicholas Provenzano:

 Yeah.

3:19:15 pm - Sylvia Martinez:

 the same. So, if we want to not repeat that mistake, we need to figure out how to have a make, or space and make your spaces in every classroom and this attitude and culture of you can get anything you need to solve any problem. At any time and if we if we don't have it, we'll figure it out.

3:19:36 pm - You:

 Right. Yeah, you know that's that's an interesting. Point too. Because I think about the Idea that, you know what? For example, next year, we're going to be imagining a space that we can kind of carve out out and out of the media center as a space for kids to be able to utilize right if they need it. Um, but with that comes a lot of things. Like, how do we carve out the time when kids can do that? How do we create the permissions and how do we deal with the systems that seem built to do? What exactly, you said with the, with the, you know, the computer, lab same deal, right?

3:20:14 pm - Sylvia Martinez:

 Right.

3:20:15 pm - You:

 And it I love this idea of thinking about making as a mindset and as a culture Precisely because, you know, it's really about having those conversations that open up opportunities for teachers to explore. How, how do I make that happen inside my classroom? I've never met a teacher who hasn't like loaded their classroom full of the things that they imagine will be useful for kids as they do their learning. So then it becomes thinking about what are other ways that kids can. you know, Embrace that learning have I, you know, Found, or am I supporting my students in that? Creativity in the ways that are that, that fit them, right? That's a really cool idea. I really like that, and I'm gonna kind of carry that with me now. Okay, I just stole that from you. so, When?

3:21:20 pm - Sylvia Martinez:

 and look at what, you know, I would

3:21:22 pm - You:

 Go.

3:21:22 pm - Sylvia Martinez:

 it the schools I've worked with this is an iterative thing. It isn't like you buy all the stuff it the schools I've worked with this is an iterative thing. It isn't like you buy all the stuff you build the room, you change the schedule and there we're, you know, we're we're completely finished

3:21:32 pm - You:

 Right.

3:21:34 pm - Sylvia Martinez:

 because next semester, you realize that these two classes should be together and these two classes should not be together and we need 10 minutes more here and talk ten minutes less here and you know it's a constant uh thing. And you know, I don't know how far the reach your podcast is but in America teachers have very little time to talk to each other across the world. It's the teachers have the least amount of time to communicate with each other, which is exactly what you need to do to sit down and say, how did this work? What are we going to do next time? How you know, we can adjust and

3:22:09 pm - You:

 You're describing making actually in this moment, right? And

3:22:12 pm - Sylvia Martinez:

 Right. Why should kids have all the fun of it or design?

3:22:15 pm - Nicholas Provenzano:

 He? well, and that's and and that's the

3:22:17 pm - You:

 For sure.

3:22:18 pm - Nicholas Provenzano:

 big thing. And, you know, along with Sylvia said, you know, the schools that I work with. I'm like you have to support it. You can't just put it and walk away. Like I'd say, listen, I know you say, oh, we don't have the money for this, but you need someone to be in charge of this program, you need someone to be in charge of a space. You need to be, right? Because I've been to so many places where they said. So, yeah, they just lock it up with the key and go. Well, someone goes in there when they need it, and like you said, there's just an inch of just on a 3D printer or this or that of the other. And I said, listen, if you really want to do it, you need someone that's dedicated to not only supporting the students but the teachers to say, hey how what lesson you have going on. Like oh, you're so cool way that we can, you know, integrate x, y and z like what do you think? And you know that's, we start thinking about co-teaching and co-planning like because that's the whole big of the process because

3:23:07 pm - Sylvia Martinez:

 Right.

3:23:10 pm - Nicholas Provenzano:

 somebody said not somebody said not somebody said not only two teachers, not have time to talk with other teachers, but they don't have time to learn a 3D printer then it's time.

3:23:15 pm - You:

 Right.

3:23:17 pm - Nicholas Provenzano:

 Learn Adobe Illustrator to learn to

3:23:17 pm - You:

 Exactly.

3:23:19 pm - Nicholas Provenzano:

 make things for a laser cutter or things like that. Like they don't have time for that. And so to have a dedicated person, whether it is a media specialist, where you see a lot of that Evolution, which I love because the term library and doesn't do justice to what they do, right? It's a learning center. The learning oven Makerspace is fit beautifully into those spaces or to let them be in charge of that because it's about learning and whether it's learning this device or learning to access resources, media Specialists have been amazing. I think sadly, as we've all seen with budget cuts, some for some reason, the first to go and look at the world. We live in now. No media literacy. No understanding and problem solving in critical thinking. So this is my love letter to all the media Specialists out there because you know this if we want to see this happen, you know, we need to see them lock step with Administration, making these changes and supporting these changes. Because without someone, you know, it's just gonna sit Teachers are going to be too busy, and it's not gonna happen, which is sort of why we're in 2021 without these things. Because Sylvia will tell you, this isn't new, this isn't new ideas, this isn't something that's like five

3:24:28 pm - Sylvia Martinez:

 Right.

3:24:29 pm - Nicholas Provenzano:

 years old. Oh, making it. So no, this is old their papers that go back decades and say, you know, we should really give kids access to tools and doing things and support teachers. Like this isn't new. So I think it's about reinvesting it, you know, funds time people to make this happen because it's really about will it's about saying gulp. Let's do this. It's gonna be dirty. But man, it's gonna be better for the kids and understand that's a marathon and not a Sprint, you know, once you realize that, you know, you're gonna see progress.

3:25:00 pm - Sylvia Martinez:

 Look, I've seen I've seen schools do

3:25:01 pm - You:

 Hey.

3:25:02 pm - Sylvia Martinez:

 some really simple physical things. Like, literally opening up walls, so you can see what's going

on the maker space, taking over trophy, cases to put the projects out on display, you know, to invite the school in to

3:25:12 pm - Nicholas Provenzano:

 Yes.

3:25:14 pm - Sylvia Martinez:

 invite the kids in who might have, you know, trepidation about walking into a weird place that there's a lot of stuff going on that. They don't understand it, you know, the physical transformation and it can be can be Are also part of it.

3:25:31 pm - You:

 yeah, you know that intentionality that you're kind of talking about of, you know, Learning together about this is so powerful and Faith. I'd love it. If you take, just a moment to kind of talk about sparklab and kind of what that looks like and how it works. Because I went down and visited and just had so much fun kind of seeing what what was going on there. So if you could share that, that'd be amazing.

3:25:57 pm - Faith Plunkett:

 Sure. So several years ago, I was working in a district and I was teaching computer science but we were not provided with professional development and then you know, there's all these state laws about, oh you have to teach computer science. Well, who's going to teach people how to teach computer science? Teachers aren't going to teach if they don't know themselves. So then I was thinking about it and I was like, man, we really need a space where computer science. We're Innovation, we're makers faces. We're all these Innovative teaching practices are modeled. So, when I moved to this District, I, I pitched the idea to the superintendent and my now boss. And they're like sure. Let's build it. So, we created a space and it's basically a maker space for teachers. And what we wanted to do is we wanted to model the Innovative teaching methods. That's my role as the instructional coach. And then we also wanted, you know, a space to keep the tools and we also you know kind of made it like a staff Lounge for them to come. So we ended up putting a poster printer in here a laminator, a cricket maker, just different tools that are again going to entice the teachers to come to begin with. So they can come to learn how the, how to use those tools. We also have snacks and drinks, and a cure and all that stuff. You know, again, pricing people with food, all that kind of stuff. But then, you know, when they come in here and they see the robots on the shelf and they see, You know, other teachers learning things, they want to learn too? Because they're like, oh, what's that robot over there? What does this do? How can I use that? Um, so it's been really amazing to see how. You know, there's one of me in 12 schools, I have like 500 teachers but how the ripple effect has been so like I'll hit one teacher to school. She'll go back and tell all her teammates and they'll start all doing it, you know, all doing the activity, or all utilizing the tool, or trying to, you know, create some kind of project. So, that was kind of our goal. So I think our district made a very wise decision in modeling for teachers because the teachers aren't going to I mean if they had a code and go Mouse delivered to their classroom without having help, it would just sit on the Shelf, quite honest.

3:27:58 pm - You:

 Right.

3:27:59 pm - Faith Plunkett:

 But being able to show, hey, you can utilize this in math. Let me show you what we can do. It's been really great. Now, this year has been kind of a bummer with covid, had a limit on in person instruction, and different things. I cannot wait, um, to be back, you

3:28:11 pm - Nicholas Provenzano:

 Yes.

3:28:13 pm - Faith Plunkett:

 know, in the fall and even the summer, we're having summer school, I can't wait to be back with the teachers and doing all kinds of projects and showing them modeling new tools for them.

3:28:23 pm - You:

 yeah, I was gonna say and I kind of want to like reemphasize that idea that you know, covid kind of put the brakes on a lot of the kind of making that I, you know, that that I've become accustomed to, you know, when we're putting our hands on a lot of devices, or when we're, you know, using a lot of You know. Consumables, and and materials it because, you know, that's not something that I can just easily. You know, disinfect between between kids. So like I don't know if that's that's been, you're always experience. But I've definitely seen that this kind of just gave me a chance to do some learning and and I'm like, you Faith inviting at the, the bit to

3:29:14 pm - Sylvia Martinez:

 Okay.

3:29:14 pm - You:

 like be able to bring this back out.

3:29:18 pm - Nicholas Provenzano:

 Yeah, I mean, so I've been in school in person all year, so we have, you know, been in person but I've had kids rotating in and out for quarantine. So I just got back, two thirds of my sixth grade design class today and I just lost a couple more I found out.

3:29:38 pm - Faith Plunkett:

 Thank you.

3:29:41 pm - Nicholas Provenzano:

 Yeah. Later after that, like, it's just a consistent thing and so when you have things that are, you know, physical making like or I want kids, like I have Micro bets, I have making Mickey's, I've got Spiros and I have enough that each kid can use it and that I don't have to worry about it, you know yet. But I have kids home and so I'm like I'm creating bags and trying to shift stuff home. I'm trying to bring stuff here and I'm like, don't forget to bring it and you know, I sending emails like I wanted kids to make newspapers shoes and you know, this is I guess I'm an old man. Now to assume that all kids would have newspaper at home and some kids, like we don't we don't get the newspaper and I'm like, oh okay, I'm like I told you two days ago, anyone

3:30:24 pm - Sylvia Martinez:

 Right.

3:30:26 pm - Nicholas Provenzano:

 could have picked up a newspaper, but okay, like what do I do? And I go, told you two days ago, anyone could have picked up a newspaper, but okay. Like what do I do? And I go, oh, we will try anyone could have picked up a newspaper, but okay, like, what do I do? And I go, oh, we will try to solve this problem, but it's, you know. So, one thing that I had to work out last year, in particular, when it was, okay. figure it out. It's March, everybody go home and Like that was the scary. Part was go home. Figure it out, it's March. And you're like, okay, and the number one thing that I faced was the inequity of access to

3:30:53 pm - Sylvia Martinez:

 Right.

3:30:53 pm - Nicholas Provenzano:

 So, that was the So that was the one thing that I took So that was the one thing that I took So that was the one thing that I took right away is a okay, I can't be in a project. right away as a okay, I can't be in a position where I'm dictating these project. X because I have no idea what a kid will have access to at home. And on top of that, they'll be too embarrassed to say, I don't have X or I don't have y. So for me, I shifted to a concept of your home, is the Makerspace. You can build whatever you have access to take a look around you know you know you can find tons of stuff online. There's something digital stuff we use. A lot of Minecraft education being web based and digital. That was super awesome to do some design thinking builds and we build your house or rebuild the community center like you know, to do things like that. But you know some kids and I love this so much, some kids, know, you know you can find tons of stuff online. There's something digital stuff we use. A lot of Minecraft education being web based and digital. That was super awesome to do some design thinking, builds and we build your house or rebuild the community center, like, you know, to do things like that. But you know, some kids and I love this so much, some kids, you know, started to paint for my design class and they're like, I I I've always wanted to paint and they started like this is what I think my backyard would look like if we did this and they painted it was beautiful and you know, for me it was they still found the design process like here's a sketch. This is what I want to do. Here's an interation and here's my final project and you know to be able to show To share it and it was painting and, you know, one girl painted her closet door that she's always wanted to and beautiful stars and she explained on all the details of why she did it and, you know, a kid built a table, another kid built a skateboard and you know, there are these Great Moments where, you know, for me it was like the purest form of maker Ed. What do you want to learn? Okay, look around your house, use those tools to learn those things and you know to see those kids so excited to like showcase them during our, you know, our weekly meetings. Like okay this is how far amen my dad helped me because he didn't want me to cut off a finger, but it's so, we're almost done and, you know, I ordered these parts and so covid. The downside right? We're not as close huddled and collaborating like you like right the shoulder to shoulder. Let's get our hands dirty but on the other side it really helped me. See a lot more of the value in that independent go do something man like we want to learn like let's go and do it and so trying to bring an incorporate that all back in next year so that we can have a little bit of both where kids are enjoying that, we want to do but also, let's take a look at this and see how we can do this together. So the downside obviously was there, but, you know, I'm very much, one of my school in particular, was what if we've done that you want to keep like, what are we gonna keep for next year? So there's that positive view of this and I think

across the board and education for me. I've been the biggest advocate for project-based learning during all this nightmare like projects learning is like the best of which for I'm not gonna be here to take a multiple choice test or you know my kids my son's been at home learning all year instead of going to the school and the state was gonna make him go into a building to take the standard. Test. And I was like, no, he's not like, well, you really can't I go? Yes, I can. And the whole point of him being home, is to not get stuck in a crowded room where you're constantly having outbreaks they go, so that's not happening. So, you know, the projects that my kids are doing whether they're home or in school, it translates, right? Because you know, when you're building a project, you don't need to physically be in that seat in front of them as opposed to worksheets or you know multiple choice tests. So that's been my big push is that this is a real big opportunity for schools to make some of those changes and to really say oh this is our opportunity so I hope more schools did it

3:34:22 pm - Sylvia Martinez:

 I mean, I hope we learned something, you know, it's been a tough year to like just go oh,

3:34:28 pm - Nicholas Provenzano:

 He?

3:34:29 pm - Sylvia Martinez:

 Go back to, you know, Look people have done, amazing things. Kids have done amazing work. I think in some cases parents and kids have gotten to know each other better and sometimes they find out they like each other and you know and sometimes they find out that that there's a lot of worksheets coming home and now there's I think there's a lot of people who are going to have to answer to parents who have who have Same. First person, the kind of work that the kids are expected to do and hopefully will be able to articulate that. They want something better, you know. I've been Telling people, this is the perfect time for programming, right? I mean something that kind of things has kind of gotten left behind in the maker movement is the programming part and here we go. What else can we do? And there are so many great free tools and ways to collaborate and, you know, from Minecraft and, you know, and and designed online design tools. I mean, a lot of teaching about 3D printing was just all these stupid rules to try and get the stupid thing to print out and not like make masks, well, hooray, nobody needs to print anymore, right, make something cool 3D. But on the screen there's tons of 3D design. You can do that. Now that you're free, free of all constraints of having to actually get out in the real world, what an amazing amount of stuff you can do, and there's whole like communities out there. People who design, crazy, Minecraft fantasy cities and, you know, or even with real tools. think about okay, we can't do And so, I think when you, when you somethings and look it's tough to send bags home people been trying it but if you can't What what constraints, what constraints have been freed up and what can you do? Still follows the design process but still engages that still requires thought thoughtful, you know, work and and design process. And I think there's a lot of stuff out there and and gosh I've seen some amazing work from kids around the world in this period of time and like I said I just hope it doesn't go back to normal and we're so excited about just getting rid of everything we say. Back to the same schedules, back to the same classrooms back to the same work back to. And we ignore like, How many stories have you read about a kid who's doing better now? Because you get up when they want

3:37:03 pm - Nicholas Provenzano:

 Yeah.

3:37:05 pm - Sylvia Martinez:

 their their they don't feel scared of being bullied. They don't 1000 reasons, why some kids don't do well at all. What I'm supposed to tell that kid. Right.

3:37:15 pm - Nicholas Provenzano:

 Yeah.

3:37:15 pm - Sylvia Martinez:

 you have a different learning style but we don't care. Just come back right back to what would made you in heavy before and you think the parents are going to accept that? I don't, I don't think so.

3:37:26 pm - You:

 you know what, you raise a really good point and we, you know, we like like Nicholas we've been You know, since last fall. I mean, since August, we've been face to face, I mean there have been challenges that, you know, we've we've managed to do it. but one of the things that I saw kind of coming out of the spring and that my kids have kind of, you know, hung on to is that informal learning that, they found things that, you know, made them feel, you know, empowered during that time that that was that a lot of them to follow their own muse, right? Which I love. And also I know I've noticed. Sylvia kind of jumping off what you said. The idea of, you know, there are parents who are now much more engaged with theirs, their kids learning in really kind of cool, remarkable ways and, and not in that, sort of like, you know, helicoptery we dread this kind of sense. But in like, you know, what's cool Is that my kid can do this thing that we learned together? Is there space for that? Is there some room? For what we're what we've been doing at home to fit into the classroom? So that's been really cool to see I, you know, honestly I could we could talk about this all day but I do try and keep myself reigned in a little bit. I want to ask one last question of all of you and I asked this at the end of each of the podcast. if I'm somebody who's just getting started with this, or I'm maker curious, and I need a place to get started. Where, where do I go? What what do I look at first? And I'd love each of you to kind of share your thoughts.

3:39:18 pm - Faith Plunkett:

 I'm going to thank you.

3:39:20 pm - Nicholas Provenzano:

 You go ahead, good.

3:39:21 pm - Faith Plunkett:

 I'm going to give a Shameless plug to Sylvia because I read her book about eight years ago. Somebody gave me a mickey-makey and I was like what on Earth was this and then I won. It was ended on Camp and then I won her book. Um and so I started reading it and I just fell in love with it. And I think like all the light bulbs in my head went off, and I was like, oh my gosh, this is how it's actually done. And so I think if you start and you even on and if you, you know, read the maker ed books and you look on Twitter at some of the projects and see the learning, I think that will really help. You see the value in making?

3:39:57 pm - Nicholas Provenzano:

 That's what I was gonna do. I was also gonna suggest that's exactly, it does. It does. I mean, it's it's

an amazing Foundation to, you know, the the, the theory but also the practicality of it. Like, okay, this is why it's important. Here's all the research, like look, again, this isn't new, but here it is nicely packaged for you to contain and understand but also here's the practicality of it. So you know, for me for even like my books on maker ad like the foundation starts from there, that start is like, okay, this is where I learned. And now this is my experience as an Ela teacher and you know, setting up a space or, you know, creating a culture, you know, in my school. So you know, it's a starting point, I practicality of it. books on maker ad, like the foundation starts from there, that start is like, okay this is where I learned. And now this is my experience as an Ela teacher and you know, setting up a space or, you know, creating a culture, you know, in my school. So you know, it's a starting point. I point to everyone, right? That's when anyone asks me this question, like that's the number one place. I tell people to start. You can't see it, but she's totally blushing over there. Everyone.

3:40:48 pm - Sylvia Martinez:

 Yeah, totally.

3:40:50 pm - Nicholas Provenzano:

 it's all true. I mean, whether she was here or not, I think any person. It was worth their salt in the maker movement. If they aren't talking about Sylvia and Gary they might not know what they're talking about because in education that's where you have to start. And from there then you start to break off into your Pathways into areas that you maybe want to focus more specifically on like if you want to explore a 3D printing. I got some people. I can point you to or Makey Makey Colleen Graves. I would send you out that way and micro bit and things like that Raspberry Pi is like, a thing that I do, you know, all of those branches, you know, but they all stem in education from event to learn and, you know, the work that has been done in that book. So that's what I'm gonna agree with faith on. So now Sylvia's got the operating something else because there's nothing else to really suggest.

3:41:41 pm - Sylvia Martinez:

 Why I was gonna say it's not a Shameless plug if you plug my books, it's a Shameless. If but I can't say there's a second

3:41:46 pm - Nicholas Provenzano:

 He?

3:41:50 pm - Sylvia Martinez:

 edition so everything's been updated but not the Not the fundamentals. I mean, the idea was that Great technology has to be situated in Educational Theory. Why do how do we believe that people learn? And what can we do on a day-to-day basis minute? By minute basis to make sure that we create the conditions for that to happen. And then let it happen. And, you know, the being able to to and look, there's a ton of resources in invent to learn that talk about where to go and and what to do, I think I can just say that this community of Educators is some of the most sharing some of the most thoughtful people I've ever met in education. There are forums, there are any better, you ask will give the shirt off their back and tell you exactly how to do what you're asking to do down to the smallest detail. And for newcomers, I think, taking a step into that Community being willing to try something, you've never tried before. Telling this opening up to students and say, I don't know what this thing is, but we're gonna figure it out. Together is such a good stance for you and for them. And I can tell you in schools around the world, The most successful schools tell, tell me the same two things they invited the parents in and they they could constantly explain to parents that this isn't

about fancy technology. It's not about getting jobs. It's about the way that we learn and what we believe about learning. And number two, is inviting the students in inviting the students into help you become better at what at what we do. And that we're all working together in a learning community that we're not doing this to students. And the students will step up and be incredible allies. Incredible advocates for the work that you want to do together because when it's their work, they'll put themselves into it and and we've all seen it, you know, how passionate kids are how important it is that they find their place in the world and how desperately they're searching for for meaning and for it for their, how, where they fit, and what they can contribute. And anyway that we can make that happen for kids I think is that is the right thing to do.

3:44:18 pm - Nicholas Provenzano:

 I think to piggyback off your talk about Community. I think unfortunately how quickly we forget at the beginning of this pandemic, it was the maker community that supplied hospitals with the things that if you want to talk about

3:44:30 pm - You:

 Yep.

3:44:32 pm - Nicholas Provenzano:

 talk about who stepped up maker Community, all across the world steps and said, go turn those 3D printers down. Let's get, let's get Printing. And it was amazing like in my school we had kids in robotics take our printers home and start printing non-stop to supply the local hospitals and it was one of those moments. I felt so proud to be part of this community because it's exactly like Sylvia said, the maker and Community will give the shirt off their back to help you with anything you need. And frankly, this pandemic at the start of it showed more than anything, how powerful this community is. And for anyone listening, I guarantee if you look for a local maker space, they will bend over backwards to help you. Learn to do anything programs, some will probably offer to come in when that's allowed to happen again to say. Yeah I can show you something with 3D printing. It's like I promise you like you will have people there happy to help because this is the one of the most inclusive communities I have ever been part of in. You know the beginning of this pandemic is scary. It was that was one of those bright lights for me to point you and go. Those are my people and we are like doing the things to step up when the systems in place failed. So yeah, I couldn't agree with little more with all of that.

3:45:50 pm - You:

 And isn't that like just so typical of the mindset we were talking about too, right? This idea that you know what, I don't I'm not a victim, I can do the thing, you know, I can, I can see the problem and contribute to a solution and and that's, I mean, I for me, that's what I want my students to feel I, you know, I want them to feel that given a moment when things are going, ask you, you know, that moment when we're all yelling plot twist, you know, Don't we don't we want the kids who are to feel like that they can they can take that and do something with it. Right. So it's me. That's amazing. You guys this has been such an I get chills. Every time we get together and talk I have to tell you because like, it's it fills my bucket and I'm just I'm grateful to you guys for taking a little bit of time and sharing your expertise with our teachers here in Indiana. I know that, you know, they're I know that there are teachers who have heard these words and have been interested to know a little bit more but it's like anything else when I have to tell you because like, it's it fills my bucket and I'm just I'm grateful to you guys for taking a little bit of time and sharing your expertise with our teachers here

in Indiana. I know that, you know, they're I know that there are teachers who have heard these words and have been interested to know a little bit more, but it's like anything else. When it, when it looks like a mountain, you're you start to wonder if you're gonna climb it or not. And hopefully, we've kind of made it look a little less, like, a mountain and a little more like, and, and invitation or an opportunity. So, again, thank you guys so much. And we're just gonna sign off. So have a have a great one, everybody.

3:47:23 pm - Sylvia Martinez:

 thanks,

3:47:23 pm - Faith Plunkett:

 Thanks.

3:47:24 pm - Nicholas Provenzano:

 Thanks Sam. Thanks everyone.

3:47:26 pm - Faith Plunkett:

 Bye.

3:47:26 pm - Sylvia Martinez:

 Bye.