

Will: I really appreciate it on sort of such short notice, it is very much appreciated. For this interview we just want to discuss and talk about your experiences with education with Fundesteam and also what Fundesteam is doing. Basically go over a lot of the interview questions that we sent to you earlier through email. We do however also want to explicitly ask you all if we have your permission to digitally record this interview.?

Alex: Yes

Victor: Yeah sure go ahead

Will: Okay, great! Would you prefer to remain confidential in the information we receive from this interview or is it alright if we could use your name on our report?

Alex: *agrees*

Victor: Um yeah you can use it, that is no problem

Will: Great, thank you!

Alex: That's a good question, thank you for asking! But yeah, go ahead do it!

Victor: Yeah, Yeah

Will: Would you like us to share our paper with you once it is completed so that you can see everything written?

Alex: Yes

Victor: Yes, please

Will: Yeah of course, thank you! Alright, great! Okay, so, let us get started!

Alex: Okay

Victor: Perfect!

Will: So I guess, first things first Nicole and I are rather interested in what both of your levels of experience with education are and how long have y'all been teaching, or your involvement in it?

Victor: Okay, well Alex is the expert in that part, so let me answer first, please

Alex: Go ahead

Victor: Because, okay my experience of teaching with the kids its not longer, its like 6 months intensive with a first year when i entered fundesteam. But I help the team with academy and this morning I help with a class with a school, a private school, using a steam virtual, that is our platform. But I have much experience that I have, Alex, or Alejandra, or our teacher Sonya but I have certification for other elements or other learning management systems for BEA training, its maybe what is edusystems. I have a certification in edusystems for training teachers, and also i have a certification on creating content and like creating courses on moodle. I have other certifications, let me see my linkdin profile, I don't remember. I'm not a teacher 100% but I can teach, my main concern, I teach better with professors not with students. I feel better and more comfortable, with teachers teaching, and teachers teach a professor, not the student. I don't know if it's great, or if that answer works. William, good?

Will: Yeah, so I mean like.

Alex: That work for you, Yeah?

Will: Yeah of course

Alex: Also to, clarify that, Victor is more on, lets say, management team.

Victor: Yeah Yeah

Alex: He works with the overview of the commercial and management decisions. But if we need some math power, to manage a lot of kids Victor also has also he stands on deck and he also, lets say

Victor: William and Nicole and the last certification I have and all the team have, is the diplomatic certificate on STEM-STEAM education, that is a course we take with the

Alex: Universidad Pontifica Boliveriana

Victor: Yeah it is a University Pontificia Bolivariana, it is from Colombia, and also is with the education portal of the americas, that is the uh administration of the americas

Alex: OEA

Victor: That is the company, OEA

Will: OEA, oh yea

Victor: That certification is to everyone on the team, Alex, Neada, Marvin, and Llorena. And we replicate that topics like the structure of steam education, the environment, and like the ecosystem of steam education with all the team. So all the teachers, all the team of the management, have the knowledge about the STEAM education, how to transfer the topics, and how to transfer the tools to the kids, okay. Also we created and we all know the training of the STEAM education to teachers, because there are different kids. I don't know if you need more from me.

Will: So I'm curious, you say the OEA certifications. It sounds if though, these types of certifications are involved in using teaching teachers how to teach, like we are also trying to do. Is that like a correct thing to say, or am I getting the wrong impression about the OEA?

Alex: Ah yeah, I can show the screen to show you what is.

Victor: Please, perfect

Will: Oh, okay, yeah

Alex: Nicole you need to enable the option

Nicole: Absolutely, it should be all set

Alex: Yup, oh yeah, thank you, yeah yeah. Okay, here is the certificate that Victor is talking about *Shows Dipomatura en educacion STEM-STEAM* This is from the OEA, it is an organization of the american states, that's the name.

Victor: Yeah

Alex: And, University

Victor: Pontificia Boliveriana,

Alex: Yeah that does not translate totally and it's just like that. It's like, we'll call it a diplomado in spanish, but it's like a one year intense training for teachers how to train other teachers and do like stem education in general. Its well let's say a one year course in education on STEAM-STEM education for teachers and for students, the one that's shown there on the screen that's mainly to teach another one of the team of the school let's say the administrator, the management side, teachers, the kids how to create a steam program for all the school and the different types of like development for the program and the different phases. And for that was this program or this certificate that we took from Universidad Pontificia Bolivariana, that's the one that Victor is referring at

Victor: Yeah

Victor: There's a fact in that program that we took we use guidelines from arizona state foundation

Alex: Yeah

Victor: For implementation of STEM education in their schools there's a first step that its introduction step, there's a second step, its extra exploratory step i think, and there's two more steps that an complete immersion of STEM education and we use that guidelines for our programs for implementation of STEAM labs that is laboratories, in the public school we benefit.

Alex:*screenshare* These ones, that's what victor is saying, I don't think that I have the screen right now.

Victor: Yeah

Alex: Do you see like boats or do you see the webpage

Victor: I see like a

Alex: Like a

Will: We see like the screen background, the background of the desktop

Alex: Let me try again, now?

Will: There we are, yeah! Arizona STEM Network

Victor: That one

Alex: This is the one that Victor is talking about, like the different types of leading, teachers and learning, make the budgeting and implementation guide that was like the source of material for the University Pontificia Bolivariana that they make the course with the permission of them and the University of Pontificia Bolivariana give it to us with all the training all the activities and all of that, and how to make the program and for different countries. But yeah this was the source materials, and I will put it in the chat very quickly.

Victor: Yeah perfect

Will: I'm curious to know about whether or not or in this learning of what you did in order to become trained in STEAM-STEM education? Did those teachings ever cover online classes and how to approach education content in that way, or is that something that y'all have had to learn so far due to the COVID-19 pandemic?

Alex: Well I can, I can tell you about that. It is kind of a funny story. From the beginning of PanamaSTEM and Fundesteam. Marvin was saying, hey, we do not have enough manpower to reach the world. At least I use the word "manpower" because we need a lot of hands to teach all the kids. And he said hey, we need some platform, we need something to do it like globally, like a massive, so the kids that cannot attend the center of Fundesteam can attend the classes also. That is well like a dream that he has since the beginning of all of this. Then when we, after we took this program with the Universidad Pontificia Bolivariana he say, hey, what about if we take all those knowledges that we get and make like a webpage or like a portal with videos of, structured videos, regarding different robotic classes. That is the main idea. Now on the programs they didn't focus on online learning, because there was no pandemic at the time, it was like the beginning of the year. They told us that hey, the future will be going in that direction, which that then gave Marvin the hey, this is the way, so after we're finished that program we started working on the site just to try to learn right away so we're learning at the same time we are producing the videos and testing with the kids that were taking the classes at

the moment that hey you like this type of videos, do you like this type of animation, do you like the lighting, the background, all of that, but with the kids out there. For example, with the kids I record myself dancing, just funny dancing, and I will show the kids two videos, like hey, do you want the one stiff teacher who is just like telling you, or do you want the teacher that is dancing and all of that. So, that was like last year, let's say like September/November that we catch onto the idea and know what to do. Then with this pandemic that hit us, lets say at the end of the year/beginning of the year, just by luck, very slim luck, we get the site going with some classes, basic classes for the kids so they can learn some robotics. Um, but no, at the moment, we did not know pandemic was going to hit but we just tried to be beyond the bounds of the situation for example. Yeah and with the pandemic hitting what we need to do as educators instead of giving the kids like a book so they can read, instead of that we were saying hey, if you get the like a license to access STEAM Virtual that will be your Virtual book, and you will have different Videos, different tutorials, different quizzes that you can practice over there, and what we are going to do in the system is that hey that's your book, that's for asking requirements for let's say teaching, "offline teaching" for example I call it that, asynchronous teaching, and we let's say like meet once a week to see how you are doing, if you're not sure on something, if we need to review something, and like that was like the transformation that we needed to do at the beginning of the year. Hope that answered your question.

Will: Yeah.

Alex: That was like the main story

Will: Sorry I am just trying to like make a note, so we can like know where to like check in later. Thank you, um, so, let's see here

Alex: So like, another update, that was like the program from last year to the beginning and that's the program we are working Fundesteam and Panama STEM we're working together on that and it's not like the date passed, I mean that PanamaSTEM is doing the same that is like doing classes for the kids with the paying methods, and Fundesteam was doing an ultra-parallel program so that somebody else, or like a sponsor or somebody else can pay for the kids to attend without they have to pay money for the program so that is the main reason that I told you the story until the beginning of the year

Victor: Yeah

Will: So that's definitely showing change now, sort of as from the beginning of the year due to like the current events as you stated

Nicole: So, I'm just curious with this whole outreach, PanamaSTEM program what's the current demographic that like you are trying to engage, is it all like K-12 or is like you know, 3-6?

Alex: That's a good question, I'll answer that. Before the pandemic we were teaching kids from, let's say 3 years old, up to 17

Victor: 2 years old

Alex: 2 years? Oh

Victor: 2 years yeah

Alex: 2 years

Victor: Yeah 2 years up to

Will: 2 years old?!

Alex: eYah, yeah, I remember

Victor: Yeah Yeah

Alex: There was like a teacher for each groups, age groups. Now with the pandemic..

Victor: We actually have one teacher that is specific to those kids, she have the knowledge to transform them into technology and all the things with the kids of the kindergarten. Go ahead, Alex, sorry.

Alex: Thank you Victor! Also from the pandemic, starting from March up until this moment, let's say today, we're teaching kids, from 6 years, up to 17 or 18.

Will: 6-17

Alex: Like those little guys that have those like that technological let's say ability to manage all the programs and all of that that we need for that classes

Will: So, before pandemic it was i'm assuming it was 3 to 17 years as well and now with pandemic it's 6-17 due to the technological necessity

Alex: Yes

Will: That's still such a crazy thought

Nicole: That's a wide range of kids

Will: Yeah, just the sheer range of education covered. I'm curious to know then depending on these, not just demographic of what fundesteam covers, but also the subjects that were taught during these time periods both before pandemic and during. Nicole and I have talked with Marvin about and so far the focus that we know about what Fundesteam has done is primarily in their robotics range. But, sort of expanding upon that, and whether or not that has changed pre-pandemic or post-pandemic, what subjects has Fundesteam been focused on entirely.

Alex: Victor would you like to answer that one?

Victor: Sorry, William can you repeat that, please?

Will: Yeah, of course, so we're wondering as a comparison with pre-pandemic and post-pandemic, what sort of subjects and content did Fundesteam cover? We have talked with Marvin a bit on their focus in robotics, but we would like to know in general how far does that reach extend.

Victor: Okay, yeah, we're actually, after the pandemic or really in the pandemic, during the pandemic we are really only focused on robotics, but we also learn some, specific things about technology, like you know Alex knows like Hour of Code

Alex: I don't know the exact translation, but I know it sort of translates to like Hour of Code, it's like that

Victor: Hour of code, but like there's no course, full of program more like to learn the kid of the logic of the things, like the structure of the algorithm but you know more like the more soft, more easy for the kids, but during the pandemic we are focused more 100% on the robotics. because we have to engage the kids to participate on the 6th edition of the National olympics of robotics STEAM here in Panama so we have to keep teaching robotics here, using our platform. I don't remember the question for before the pandemic, or the content of the question we cover before the pandemic. But before the pandemic we cover all the rest of STEAM, Science, Art, even Mathematics, full mathematics, we cover all the STEAM areas in our classes, in our potential class. But during the pandemic we are focused first on Robotics because we already have the

content for our robotics in kind of a virtual mode so it is easy to transfer that content, like that content that Alex has in the computer, or that Alex has in his head. Yeah, and all the teachers. So it is more easy for us to put that content of the robotics programming on our platform, but the vision is, I don't know if you, I'm sure Marvin, show you the platform, let me show something here, that is important. Let me open STEAM Virtual. I'm currently sharing the screen of our platform, that is STEAM virtual. Here, this is ISTEAM+, the thing we going to do is, upload some course about entrepreneurship, Science, Technology, Engineering, Art, Mathematics, that is the STEAM areas, but also we want to create content on Humanities, business, financials, business intelligence, you like that kind of things. And also we want to create a course for the teachers, not for like our trainings, but more like a course, like they can take a course for i don't know like 6 months, or 3 months, or 5 months and they have to, they can em, win a certificate. So if you see this it's more than STEAM areas, we focus on the STEAM areas because we are a STEAM education 100%, but we want to amplify, expand the content with entrepreneur, humanities areas, and course for teachers but these courses are more for a certificate or a diploma like what Alex, and all the team too. It's like a STEM course maybe 2 months, maybe 3 months, maybe 6 months with like the teachers.

Alex: Let me expand on that, just to like make analogy of that, it would be like a type of like a coursera course for teachers, that they can, set up online, it would be like a guide like all of that, let's say like 6 months to one year so they can get a certificate. We are trying to work on a partnership with some university here in Panama so when the teachers get the course and let's say they pull through they get the certificate ballot like one of the courses for the university. That's like our goal. And that's what Victor is trying to expand on that.

Victor: Sorry, Alex yeah. And with that way, William and Nicole, we already have the like the signature for the university that will like support us through these course, it's called University of the Americas. Let me, let me find the website and I show you, okay? Yeah, so we can maybe the next years start within the next years. We have to work in that course because I don't know if there is a time in this year, because we have so much work Alex, so I do not know if we have enough time to launch this course this year, but maybe in the next year. We already have the course, well, well, it is just for information, we have the signature and the support with this university. Let me show you.

Alex: You're sharing a screen but you're not sharing the screen, okay yeah you're using the share,

Victor: Yeah, yeah I sent it in the chat, there's the page also. Here's the page. It's this, it's this one. Yeah but William and Nicole for the summary we're focused during pandemic on robotics and programming, because we have to engage the student to participate the virtual games which is the National robotics competition here in Panama.

Alex: Also to expand on that a little bit and also one of the main situations here in Panama is that kids doesn't like math, they, they hate it. They do not really think it is useful. They hate it, also thinking, like logic thinking, they hate it also. And one of the main, one of the key areas that we focus on is robotics because we use the like robotics like a gamification tool so we can teach them math and the logic thinking so that they can solve some problems, that's the main reason that the website says AVP that we would translate to project based learning, that would be the

translation to that. And what Victor was saying would be at the end of the year, like you would have in the US like FLL or First Lego League, or First challenge, all of that, also there's a parallel of that with world robotic league. But with the pandemic, all of those programs were like closed, so we want the kids to have like the opportunity to participate in one of those competitions, like robot virtual games which is the website where the kids can participate in a competition made for let's say, here in Panama, for all the work, and one of the objective is hey, we're going to teach you how to logic thinking, math, how to apply the math so you can participate in one of those challenges on the robot virtual games website and you can see how many point you get and how many times you get, and what you can do to optimize your software and what you can do to your robot to be more fast or more stable, what that type of thinking and what we focus on right now with the kids.

Will: I see, I see, so lyou've essentially created your own world robotics olympics so you can have

Alex: I mean we do not create it, but like

Will: Okay

Alex: It is like a pitched idea, and say hey, we don't have the knowledge rn on how to build it, but we can build the partnership with someone if you put the technological advantage, we know, we put the know how with the Panama's inclined to know that and offer other different things and we do a partnership with different companies around the world and around latin america and we build together the website called robot virtual games. So another countries can also take advantage of that to, so like they can say hey, that's a motivational tool, let's go that way, but yeah/ Yeah, i think, I know it's a lot.

Nicole: So with this platform you guys have created, you guys aren't really participating in any synchronous learning, is that what I'm getting here? Okay.

Alex: Actually, yeah, we are doing it! That's the situation

Victor: Yeah

Alex: And before this meeting we were in class

Nicole: Oh

Will: You were in a synchronous class?

Victor: Yeah

Alex: Yes, we are working with different schools in Panama that we tell them hey, we want to offer the robotics class but instead of giving you like a physical book we can give you the access to the webpage STEAM Virtual. And some schools say yeah, that's wonderful, let's go ahead, and then the pandemic hit, and that's what the main reason was that, hey it works. Because of the way we meet up with the kids once a week and say hey this is our synchronous class, we meet once a week, and we say hey you need to see these videos, answer this questions, do this homework, and then at the next class next week we will go over it and go to different content. And we will go over what goes wrong, what goes right, it's working, you're getting some sort of error and we're doing that way. Some schools have been like hey,

Nicole: So it is kind of like a hybrid mix, as in like they do have you know asynchronous lessons but once a week you guys meet virtually to kind of

Alex: Yeah

Victor: Yeah, yeah, actually Nicole, sorry Alex, the thing is, the platform has so many course, so the kids, the thing is it's like okay im a kid, I'm a student, im logging into the platform, i see so many course, maybe a new course from biton or for java, oh I like java, I'm going to go to this teacher and enroll in this course. That being said it's more so it's like self learning, it's more for that style because the synchronous class is more for help, more for support, not for teaching, well yes teaching, but really support, technical support, academic support and for the transfer comfortable, or making the kid comfortable with the platform. That is for the synchronous learning

Alex: Also that we're trying to say like, to accomplish here in Panama is to make a flip classroom, so they can learn before we go to the class. We're trying to accomplish that in Panama, but that type of learning goes against the traditions in educations, so we do not call them flip classrooms but essentially that is what it is. We're trying to do that and another way, and not saying that these are flip classrooms, but just to say to the kids hey, you know how to follow this this this this and then the class we are going to review it and then give you support. That is what we are trying to accomplish with them.

Will: In accomplishing this, or doing this sort of goal of a flip classroom would then like the resources that the student uses to learn before hand and then come to class later and act it out would those resources be sort of the same or similar ones that they are currently already being used for online learning lessons, like are there video lectures, or virtual robotics creations

Alex: Let me expand on that. Yes, for example here in Panama one of the most popular tools for synchronous education is microsoft teams, some schools use zoom but right now the majority of it are using microsoft teams. So we tell the parents hey, also additional if you buy the license for the access to STEAM virtual additional you will get the robotics lab, which is called virtual robotics toolkit that's the program that is the simulation of the robots. Additional for that is the lego mindstorms to program the robot and another program called Lego Digital designer to design the robots and all of that. So, it is like a package and we told them hey you don't need to buy a new computer or any of that but just have access to the site and install these programs and you're ready to go. Have a good mic, and have like headphones and you're ready to go

Will: So it is very available then if it's just like as long as any previous equipment they need to use is on the website

Nicole: So it is kind of like a paid package for the parents who can invest into STEAM education for their children or do you also have free options for those who cannot.

Alex: Yeah that's the main reason why I tell you the story until the beginning of the year. That story changed a little bit.

Nicole: Okay

Alex: At the beginning of the year before the pandemic hit, let's say March when schools were about to begin, we pitched the idea to schools like hey we have a platform you can use with your equipment instead of buying like 40 dollars of physical book, you can buy the package with the website and softwares and all of that. Just install it and you are ready to go. And some schools say hey, yes, we're going with that all the parents buy the license and all the package and that's we're the synchronous classes and the asynchronous classes come in. Let's say that's the PanamaSTEM main way. That's where Fundesteam comes in and do something

different. Some parents say, I lost my job I do not have the money to pay and all of that and Fundesteam also and Marvin say let's offer this program to all the kids in Panama. And that's where Fundesteam searches for sponsors outside of Panama and in Panama to create like a program for 1 or 2 months for free teaching for the kids so they can have the website for free and they can have the softwares for free and for once a week on Saturdays we were meeting with the kids so they can get knowledge on robotics and all of that. And yeah that was like for 2 or 4 programs prior to that, also after that when we finished the free classes for the kids, the Panama government say that program work, but let's do the same for teachers. Let's teach the teachers how to use the digital tools so they can teach the kids, how they can use robotics, how they can use microsoft teams, or google classroom/meets etc. How to do that, we were working on that till about 2 months ago.

Victor: There's, sorry Alex, just a few things, and there's a fact, we teach the teachers of the nucleus of environmental learning, environmental virtual learning I think Eva, how do you translate Eva Alex to like virtual learning environmental.

Alex: Elements

Victor: Elements yeah under our management system and this training for more extend just for our platform, we teach they how to use microsoft teams just like alex say, our google classroom also Lapster or our other platform for science and edusystem and STEAM Virtual. So the thing that this training is to the, it's the teacher feel more comfortable teaching virtual classes for the kids, or taking virtual classes for the students, it's not just for our vision of our robotics of the STEAM education, it's just for help the country or all the countries feel more comfortable in this situation during the pandemic. To feel more comfortable the kids during environmental virtual learning, virtual elements. Go ahead Alex.

Alex: Yeah, Yeah, Yeah, go ahead guys, do you have another question?

Nicole: So, I don't mean to the conversation in a completely different direction, but I am just looking for clarification, I've noticed through our own research as well PanamaSTEM and Fundestem are two different organizations, kind of completing the same thing and they have similar people working for them, but can you just clarify if PanamaSTEM is just for teaching the kids and Fundesteam is kind of funding for it?

Alex: Yeah, sure we can explain that, very quick. PanamaSTEM is a business company any other company, let me close the door, okay, Fundesteam is like a non-profit, non-government organization that wants to give the kids the, for example the first goal is for the Panamanian kids to get the opportunity to get the first-world education, so we can upgrade the education. And so that the teachers have the tools and the kids have the tools. So they are 2 separate entities, and what we do for example, Victor and I and the team. We finish our work shift for example, 2 pm 3pm etc. and we start working on Fundesteam things. That is Voluntary work, that's the main reason why we say we are teaching some classes on Saturdays because normal classes are on weekdays. That's the main reason why I make that observation. Oh yeah, that's a good question Nicole, and that's a common one. It is a little bit confusing, but yeah that's a good question.

Victor: There is two different entities, PanamaSTEM has their own project and Fundesteam has all their own projects. In some projects sometimes both organizations have the same vision, like

you know like uh STEM implementation, education, STEAM education around the all of Panama. So in some projects there are fragments where both organizations can work together to achieve the goal in that project. So PanamaSTEM support Fundesteam mostly on the national robotic olympiad here in Panama. PanamaSTEM supporting the class of the training of the kid of the training of teachers, or maybe even on the under a human resource. All if the employee of PanamaSTEM have become volunteer of the national robotic olympiad, Fundesteam needs hands, and Fundesteam is only Marvin and Valeria, so it's just 2 person in Fundesteam. So the agreement of the company and both organizations it's for that, it is for support, technical support, academic support in the development of the projects. I think I have that agreement, maybe I can send you, to William and Nicole to look at the agreement so you can understand more of why, how Fundesteam, how PanamaSTEM support Fundesteam in their projects. Because Fundesteam do not support PanamaSTEM. PanamaSTEM support Fundesteam in their projects.

Alex: Yeah also regarding the on that, for example, Fundesteam also tried to make the logistic for hey, we are going to offer like a program for the kids. They tell the government hey we're going to launch this program for the kids, but we need to manage the logistics on how to get the volunteers someone of that knowledge can then attend the kids and all of that, one of the grimace that we get here at PanamaSTEM is we have to do some amount of hours, voluntary hours on any non-government organization, it's like a traditions here, and we use Fundesteam.

Victor: I think the hours of the volunteers is in all of the organizations here in Panama. All of the organizations here in Panama all the employees of the organization has to complete a certain amount of hours of volunteer work. In any org, or any non-profit organization. So PanamaSTEM support in that part, also in that part to Fundesteam. It is like the channel of the social responsibility corporate, cooperative of Fundesteam.

Will: Let's see, okay, so Victor, Alex, I do have to leave in order to fulfill in for a campus job but I do want to express, personally my thanks for coming on with this interview, and I will leave you all both in Nicole's very capable hands. Thank you at least on my end, for coming and doing this.

Victor: Thank you, Thank you William, very much!

Alex: Thank you William, good luck with the kid, have a lot of patience.

Will: I will, I will. Thank you so much

Victor: Good luck

Nicole: So I personally am just curious, with all of this, especially with this, stating how Fundesteam reaches out to the government and then says like, oh we have this program that we want to accomplish, like, how does Fundesteam kind of promote, do you know by any chance, how Fundesteam kind of promotes their educational content to schools, students, teachers, and things like that? Or if you don't feel free to say so

Alex: Victor can tell you more about it

Victor: Alright, let me, if I understand, how to promote STEAM education in the schools?

Alex: What she is saying is that, um,

Victor: How to reach the sponsors?

Alex: how we get the programs in the schools, I tell the government because Panama is too very little, but that is the main reason why I tell the government but it is actually the locals of the authorities, and we say hey, we are going to open the program

Victor: It's like how we are going to reach the sponsor in Panama, look there is so many steps, it is a cause for reach a sponsor in Panama. I think it's a bureaucracy, but the first thing is do a presentation for the program to the bureaucracy, it has to be a presentation for a specific project presentation in Panama. After that if we have good answer for the sponsor, we have to build, agreements, we have to build, we have to, that agreement have to be the signature of the director of the authority of that entity. So after that signature, the file goes to uh, controleria, there's an entity with a contu validity of the country like the

Alex: Budgeting

Victor: Yeah, the budget authority here in Panama after that the director of the entity has the refrendo, idk how to say the refrendo, yeah the proofman. So we can reach the funds for that entity of the government. Yeah but after, before that many things happen to structure the program with the hours, structure the content with the hours of kids, establish the age of group of every classroom, and yeah

Alex: Also adding to that, then we get the signing on all of this management process, we ask hey, did you agree that we do some like advertisement for the program, if they say yes you can do it before we get the signing or they can say no, let's finish let's get the signing, all the signing, and let's get the proper paper work, and then let's go the advertisement. When we finish all that process usually they tell hey, yes, let's go ahead with the advertisement, and that is when we go on instagram, that is one to the most popular here in Panama. Doing hey, we're going to offer a program via Zoom or via Teams etc. and we are going to use this type of software and its going to be free etc. or this program is just for kids from this school, but usually that is the way.

Victor: Also we select the schools as a part of that. Yeah, it's most like this, actually it's like this, and we have to do a good presentation for a specific project and we uh, have a good meeting with the sponsor or the possible sponsor for the project. Yeah there's a fact here in Panama and also in any country, you have to be a legal status active, all the legal papers have to be on the date, for the sponsorship. For example we have an agreement with the administer of litigation with an agreement of to enter, of the all schools here in Panama to teach the kids, to teach the teachers. So, this achievement for us when we do our presentation from the sponsor, it also has some benefits for the DEA (ISR for the US). We also have a benefit with the author entity on the minister of the social resource, the social developments sorry. You have to built the entire ecosystem to be able to teach in Panama. Without the consistent you maybe have more opportunities to reach the possible sponsorship. But yeah, it is hard, it mostly here during the Pandemic, the economy here in Panama during the pandemic is very very bad. So I don't know if that answers your question

Nicole: Yeah, so even with people, like PanamaSTEM, the organization, you don't directly reach out to the school and say like Hey, we're offering this program, do you

Alex: Yeah, let me explain, that's a good good good question, yeah. We try to avoid going directly to the schools, we are trying to avoid doing that. What we are trying to do is participate

in different grants around the world, for example, the boeing, I mean Victor you can tell more on that.

Victor: Yeah, yeah parts the Boeing, with the Pan-American, also we participate in the US embassy programs on grants here in Panama, we participate in the motorola grant program, on the sysco grant program, on the coca cola company program. I think international sponsorships is more benefits and more beneficial to reach the kids here in Panama. But obviously you have to reach, you have to have some connections here in Panama because the coca cola company, or some big organization just in the name, to have ong, just a simple ong. The Ong has to be some connection, a small connection to a government entity in the country, because its a 200k 300k 100k for that times, that type on nation we have to be a relationship with the entity of the state of Panama. We have to add it to the minister of education, to the minister of social development, I think the minister of the President, The minister, it's not the minister, it is more like the office of the first lady

Alex: Yeah its like, I don't know how to call it yeah, the office of the first lady, for other things that are not important for organization the country

Victor: With this help, organizations, we can at least schedule a presentation with the sponsorships here in Panama. We'll say like hey the minister of education meets with us, and also the office of the first lady, is with us. For example, we win a grant for the company it's called minera Panama, you know Nicole minera Panama it's for the, how do you say minera, minerar

Alex: Mining

Victor: Like a mine in Panama, so that sponsorship will run for behind them, one year ago. And today, the last week, he said, yeah I'm in, I'm going to donate a grant for Fundesteam for the project. But it's for the thing with the minister of education and the office of the first lady. This ecosystem it's more it's very important to reach the sponsorship even the private sector and the public sector. Also we have to show them, we have to show them, the number, like the statistics of the attendance of the robotic olympiad, we have to show them the teachers we are training, the students we impact, the numbers of the STEAM laboratories in their school.

Alex: Also Nicole, we did not choose the school that, mainly the sponsor said hey we want to, we want to help five or two schools on this specific area of Panama. Usually they say that, that's the majority of time. Another time they say hey, we're going to do a sponsorship for one school and this will be the school, or you choose the school, and any of that. But usually this type of organization say, they want 6 or 2 or 4 schools and this is the budget for all the implementations and go ahead and execute the program. That's mainly for that, we did not go directly to the school, we go directly to the sponsor and do all the work, mainly Victor do all that work. And that the heavy lifting and that when all the paperwork is done, then all the teachers will say that hey we are from Fundesteam we are going to teach you this this this and we will give you all the tools, that's mainly

Nicole: Now after seeing all these numbers over the past you know year, few years that you guys have been doing this have you seen a rise in your numbers or success throughout the learning through K-12, or 3-17 of like kids picking up the STEAM learning and continuing on, or do you have any numbers where oh this amount of kids who returned for another year of learning or anything like that. Like kind of see a success rate.

Victor: Yeah I think I have some maybe Alex have some more but, for example, for the national robotics olympiad here in Panama every year has a rise of 20% of the participants and the public general, general public. That's an achievement on our participants, and even the national robotic olympiad. For other side, the last year, Alex correct me if I am wrong, last year we had 3 students with the scholarship from the institute nacional, there's a public school that will benefit from a sponsorship and the 3 kids participate in the national robotic olympiad of 2018. The last year, yeah, that, yeah, this one.*Alex Screen Sharing* So these kids in 2019 win the olympiad and they 2020 in the beginning of this year, there's an entity here in Panama that is called IFARU, Alex if you can put the website of IFARU please, and then this entity is called IFARHU gave to the scholarship, a full scholarship for study in the Madrid University, or some university in Madrid Spain for study in any career in the way of the engineer, maybe mechanical engineer, software engineer, kinda whatever they like. But there's a full scholarship or these 3 kids or all the group, like 8 kids, but 3 of those kids it's training for Alex, by Alex. Like Marissa and other students here in the scholarship in Fundesteam.

Alex: Let me explain that very quickly, before you go off Victor, it's that at the beginning of 2018 for these guys, one of the sponsorship say we want to do robotics on that school, ciudad nacional, it happens to be I was the trainer assigned at the beginning of that year to teach robotics to the teachers and the students at the same time. And after that I was not there, I was just working and when they go to participate on the competition, they happen to win the first place, that's to clarify that. It happens to be, I was the teacher that was with them at the moment of the training and then I was there at the beginning of the year. And this was like in December, actually no it was like in September and yeah they won the first place in that competition. Yeah go ahead Victor

Victor: Yeah, yeah, what, for the event they IFARHU, this entity give the full scholarship to a study of the some career for engineering in Spain, for full scholarship, and well like Alex said, that's students it's training took class in our center Fundesteam. And this is a achievement because it's the team we want to reach, all our students that, you know like training or, in areas of the future. You know. And when the three kids come back to Panama they're going to develop the country you know, develop the country.

Nicole: That's really good

Alex: Yeah also that was one of the years that we like implement more programs that never before at the beginning of the year, and here on the screen we have this little report from 2015-2018 that shows that from 2015 we had like 150 participants and in 2018 that we like implement with Fundesteam this type of programs more kids were interested in robotics that never before. So this was like a big achievement for us and happens to be from institute nacional, and well this was also the viewers, usually they go to football, shows, baseball games, and to all of that but that year specific we got a lot of people going to watch the robotics competition.

Nicole: That's really cool

Alex: Yeah, that's one of the achievements on that.

Nicole: So I think I just have a few more questions, and it kind of goes back to your specific styles of teaching, and how you create anything. Is there anyway you could just fill me in on the

process in which you go through when you have to create these courses on the platform, and how you work through that.

Alex: Yeah we have a system before and after, before we have pandemic it was right on the spot, when I mean right on the spot it was like I'm with the kids in the classrooms and say hey what do you like and you opinions that we put this on the website, and they say hey I like this part but I don't like that part. It was on the spot and I was taking notes. And I try my best to record the next class I show to the kids, that was the before. The after the pandemic that I don't have the kids with me and I don't and there with all the kids and do all the teamwork, and right now what we do is we focus on hey, we're going to do a main course that is for example like 8 hours or 5 hours or 16 hours long, and we're going to break it out into 8 lessons, okay. And we're going to say hey each lesson if for example 1 hr or 2 hrs, those lessons have little topics, like videos and we say hey when one 1 lesson, we're gonna say for example, teach 5 topics that will be introduction, the beginners teachings, the very hard challenge, another challenge more advanced but more short, and the conclusion for all of that, and that's the system that we are doing right now. And that is the main structure and we repeat that main structure all the way along that main course. For example, we are trying to teach the teachers how to use one of the platforms called edusystem, that Victor can tell you more about that, to tell the teachers hey, if you want to let's say teach the kids one topic, you do not have to develop all of the material but you can use this platform of this one or this one to get the raw material, inspiration or source material with the presentations and then if you want to get all of the exams and quizzes you can use this one this one and this one. When we try to make a course we try to make or best to take like, if we are the teachers in that position what we can do. We use the same structure like hey the beginning of this topic on this lesson we are going to say this this and this, topic 1 the raw material, what the raw material, what you need the sources, topic 2 you can use this one this one this one, topic 3 let's make a practice, and we follow that structure for the courses. But yeah that's our main structure right now with the pandemic. Sometimes, very little, sometimes, we're with the kids online and we try to pitch them some ideas so if they like it or like this, and all that. But we always follow that structure that we got a lesson and we have like 5 or 8 topics on each lesson and also with each topic a different questions, a practice questions or quizzes so we can use it with the kids.

Nicole: So, going off that, is there any possible resources if you can think about any of that, that would help you kind of create your content more easily if you had the access to it, or is the anything that could help make the process maybe a little bit more

Alex: To tell you the truth, any help is wonderful on the creative process, it is a chaotic process, let me tell you it is a chaotic one. But yes, if there is some type of like sort or reading material or video guideline that will help us or teachers in Panama how to create content. For example, here in Panama we have like a common situation that we get the guide that have all the knowledge but it does not have the skills to be on screen, but we get the guide that have, I don't know, but it has the appearance to be on screen but does not have the knowledge, but we have another guide that knows like the lighting and all of that. If we get a guide for the teachers here in Panama that puts all of that together on a friendly manner it would be wonderful. For us in PanamaSTEM it was like right on the spot, be learning all the way through and we are not

experts on the material, we are trying to do our bests, researching on youtube and on other things on how to use the lighting and all of that. For example this one I just discovered today, that hey, if I have a lamp on my face it is better, instead of having that light over there. I discovered that one today when I was doing the classes with the kids before this one. And also the mic and all of that.

Victor: I have a question Nicole, you and William want credentials for the STEAM Virtual

Nicole: Yes Marvin, was discussing with us there was possibly a way that we could get access to the platform

Alex: Yes yes

Victor: Sorry Sorry I did not hear it, sorry, okay perfect.

Alex: Victor I am working on that to create the credentials for them with the same email from the university from college, but it is not ready yet, I am finishing some task before I create the credentials on STEAM Virtual

Victor: Okay, perfect

Nicole: That would be a huge help to both of us, I really appreciate that

Alex: For sure

Nicole: Between your asynchronous and synchronous lessons have you noticed any challenges that you have faced when trying to communicate with the students?

Victor: Oh yeah, Alex go right ahead

Alex: One of the main challenges they do not have microphones, they have the better headset but they do not have the mic, or the mic is working, but the hearing doesn't working. Another one is that some schools have the policy that say the kids need to turn on the webcam, that's one of the school's policies, and some on the schools say that no it does not matter, they do not need to turn it on. One of the challenges that we have, is that, a technological one, is that one of the schools that we're working with they say hey, the kids needs to turn on the camera to be more presential, or synchronous but they don't have one and that's a recurring issue, but we tell the school, hey this guy doesn't have like a webcam, if you can provide him like a webcam that would be wonderful. Another one is that they fall asleep, class is at 7:30am it is a little bit hard for kids, so some of them doesn't show. Also one of the kids for example, at one of the schools say that hey my parent does not have a job, I do not have a computer, I can attend via cellphone or all that, and that's another of the issues that we have, that in not through PanamaSTEM but through Fundesteam. We tell Marvin that hey we have this situation with this school can we get a sponsor for this school, for this computer so he can give the school 2 or 3 computers so he can give it to the kids. Another one of them is that their kids, so they do not know how to use Microsoft Teams, but they know how to use Discord, Twitch, LOL, and they know how to game, but they do not know how to participate on microsoft teams for the classes. That's for the technological side, for the medical side, one of the policies that we get from all the schools that we are teaching is that we are doing our best to record the classes because here in Panama we have a quarantine that nobody can go out, and some students get sick and they need to be rushed to the hospital or medical facility and they cannot attend classes. That's another of the issues that we present, for example we have one kid from 9th grade that, always when we have class, she is always in the clinic, I don't know why, doesn't matter but that's fishy.

But I was talking with her parents, I think yesterday and she told me hey, I have this situation like that but we are attending the class synchronous, we are watching the recordings, and we say hey there's no problem for that. But this is like the 2 main issues that we get with the kids.

Victor: Yeah

Nicole: Okay, Do you guys have any questions for us, about how we are going to go about putting together this guide for teachers?

Alex: Yes I have a question, go ahead Victor

Victor: Sorry, sorry Alex. It is just on the last you say. There's a fact in every school that use the platform that use the STEAM Virtual or any platform, that the teacher has many many work so when we deliver the platform for the students and for the school, the teacher say to us have much work, I do not want more. I do not want other job. I have much work, I don't have time to think about your platform or about your scores or about your, because we understand but you know some teachers are more

Alex: Willing to

Victor: Specific, exactly, yeah thank you alex, and other teachers really have so much work so, the thing is that the platform we want not involve 100% the teacher, but they have to be a way to simplify the use of the platform for the teacher so they see the notes and the grades of the student. There have to be a way and we don't know that way right now, because the teacher explode their head when we introduce the platform to the teacher, student, and all the school. So this is of the think have thinking for to create a repository for the facts and frequently asked questions, and also to create a guide for the teachers. For maybe some videos, maybe a pdf I don't know. But we are in the key time for this because the teachers, there's a problem right now with the teachers, because they doesn't feel comfortable with the platform. The thing is not that the platform is bad, it is more because they have so much work. So if you have to train the teacher for I don't know 2 days, each day 8 hours, there is a follow-up. You know it's more work, it's more things to learn and then the teachers get frustrated because they don't understand the platform, they do not see the grades of the student in the robotics signature. So there has to be a way, so Nicole it is just for a compliment, just say Alex

Alex: Also, regarding that Nicole, and this is a common situation here in Panama, most of the teachers, the big group of it are not millennials, you know the other generation that was before them

Victor: Like 60 years old

Alex: Yeah, I don't know how to call it, but they're not too tech primy or tech savvy, and when we tell them hey we're going to teach a new class but there is no book, but you're book is a website. They go wait wait wait what's going on something change here, I do not know how to use it and they do not feel comfortable. And they do not feel in control, its, they don't feel in control of that because the kids are scared of books but they are not scared of websites, and one of the situations that also happens is we got like a senior teacher and we tell them hey we're kids and we're going to teach you how to teach robotics to the kids, and we've got this situation where I've got all this college degrees and I know robotics but that's one of the common situations that we get that they're trying their best on their way to know the platform but the main challenge is that, how to be up to speed technologically and all the ability to be tech

savvy as the kids and that is a difficult task for them. It is a huge monumental task for them, because they start talking about all the spec of the computer and the game and all the blah blah blah and they get lost. And they do not feel like they're secure about it. The kids love the platform because it is their nature, but the teachers are not comfortable because it is not their nature, and we are trying to change that, and that's one of the also main situations, but with the teachers, not with the students.

Victor: And it's in every platform, not just for robotics or for programming, its for any platform, even the spanish or science even the art and music, it is every platform because like Alex say it is not the nature of the teacher, they have a scare, I don't know if it is a scare, or if they do not feel comfortable but it does not work

Nicole: Makes sense

Victor: Okay, yeah Alex continue with the question

Alex: Yeah I've got a question for you, Nicole. Did you know how to use Moodle?

Nicole: Um, Can you say that again?

Alex: STEAM Virtual like the core of STEAM Virtual, it's Moodle, it's Moodle, M-o-o-d-l-e, Moodle. It's like the core of the webpage, what I am asking is did you know how to use it, or did you use it beforehand.

Nicole: I actually just heard of this platform since we have been in contact with Marvin, he has shown us the platform before, and it looks fairly similar to a type of platform that I have used in the past, you might be aware of Khan Academy. It has that similar aspect to it

Alex: Okay

Victor: Yeah Yeah

Nicole: So like I have used that in the past, so I have a basic understanding, I have not specifically used this platform but yeah

Alex: Oh wonderful. This is not like a question but to what I am understanding that is your project, to see if I am on the same line. What I am understanding is that you and William will create like a course for the teachers on STEAM Virtual, that will tell them hey if you want to do line online classes you need to follow this, this this, this, that is what I am understanding. Is that the main idea

Nicole: So, what is our current understanding we are also supposed to be having a meeting in the next few days to also clarify some things but when we met with him last we discussed kind of making a website that's going to include guidelines, recommendations, and tutorials on how to use you know the equipment, the software, and other recommendations that not only you guys have in the manual that you guys have recently created for online learning but also extra recommendations that we also have and know of and also are you know researching as we go through out this project. And it looks like Marvin eventually wants to make that a course for teachers itself, but we will be building that first stepping stone, which is what we have a current understanding of. That might have recently changed but I do not know

Alex: Yeah yeah yeah, it's like just for a first step but if you have a website with all of that content that would be awesome and wonderful. And I think that will be a course for the teachers, but yeah that would be awesome. But yeah that was what one of my questions was regarding that. But also, if on the website that you created, if you can make or place like a quizzes. Like a I

don't know how to call it, pop quizzes for the teachers. For Example if you teach them how to use the lighting on the camera, so they can have a measurement if they know or if they doesn't know about it. If you could include that on your webpage, it will be wonderful, because we can measure and you can measure hey this person watched this video and he tried to answer it but he failed and he do it again and now okay, now he gets But yeah, if you can add that to your webpage that would be a lot, a lot of help for all of us, all the teachers.

Nicole: Along with that is there anything that you guys might, would like to see on it it, so our current idea is we're going to discuss like the recommendations of equipment that has been put in place for PanamaSTEM and like adding recommendations and tutorials, well adding tutorials and guidelines on how to use the platforms that you guys already used for teaching along with maybe I don't know if you have any recommendations for I don't know

Alex: Yeah one of the recommendations for the, if you can put on the website, is like a list of free tools, for example here of Panama I told you is that we have the teacher that have the knowledge and he wants to do online teaching but he does not know how to use the camera on the computer, but he got a good a good cell phone. But how to use a cell phone camera and if he does not have money for lighting, a cheap that he can put lighting and all of that on. And also that for example that he doesn't have to be an expert on video editing that they can use free tools or easy free tools, something that helps someone that is not tech savvy or tech friendly or researching on youtube is a lot of work, if you can put a tutorials on those type of things, that will be wonderful.

Victor: I am think Alex that's a great idea, I am thinking about maybe if you can do a list of the free tools maybe Alex that example, that example of Alex is good, but like Kahoot, you know what is Kahoot Nicole?

Nicole: Yup, yes absolutely

Victor: We can put in the list hey you can use the kahoot as a free tool. Do you know how to use Kahoot? And then you put a link for a video or from a blog, like hey, this is the way to use kahoot. And then the teacher see the tool and see how to use, and actually they practice and they know it. So like kahoot, microsoft teams is another one, oh no microsoft teams is not free. Kahoot, I think Canva, Canva is free, Drawpunto.io, Mirro. So there is a lot of free tools that are free and this is a great idea and if you can add it to that website it is good.

Alex: Nicole this one will be a lot to ask but if you can do it wonderful, one of the situations that we get and that is very important situation is here in Panama a lot of teachers are not tech savvy because they doesn't know english, they do not know the english language. After you built the website, with your content if there is any way that you can put like a translate button, so that when the Panamanian teachers go to that website, oh its in English but *boop* now it's in Spanish, then back in Spanish That will be wonderful because the idea, the main ideas, the content part, the website page you can show it to the teachers in the US but also it works in Panama. And one of the barriers that we get here is the english, the language barrier, the english, so if they can go to the website and see that the website is in Spanish they will be like yeah, I can read. But okay the for example the video is in English, doesn't matter it has subtitles in Spanish, wonderful, it does not matter. So that is an if you can do it that will be wonderful. It's just like that will help a lot of us.

Nicole: Personally I know, like this is just that I'm trying to think through it on the spot, but say like we have a home page or whatever and you know maybe we have a statement in Spanish that says for Panamanian teachers that are not that don't know English like,

Alex: Press here

Nicole: Yeah, or if told them, I know specifically on google chrome there is an easy way to translate your page into Spanish, if we had an easy way to do that

Alex: That's wonderful, that works

Victor: So great

Nicole: The guideline and tutorials videos might be another hoop to jump through when we get there but I know discussing it with Marvin you know if you do it in English right now, that's perfectly fine we'll figure it out in Spanish later on. But that is definitely something we can try out best to get a stepping stone so then at that point we can work back.

Alex: Just finish it in English and if you can put a little disclaimer saying press here for it to be in Spanish, that is awesome for us

Nicole: Awesome, that sounds like a really great idea. Another thing is I know we were just talking about you know that you would like to have that list of free tools and resources that teachers can use, our initial plan was to try and work through kind of like a fair amount of scenarios. You know if you have like the money here's equipment that's recommended but if you do not here's a way to go around it so it's the same thing, like both recommendations etc. and kind of have both fields of teachers all around

Victor: Perfect

Alex: Good, it will sound a little bit weird but here in Panama we use the expression that the Panamanian it's a little bit elbow, cheap steak, doesn't want to invest money on equipment so that will be wonderful if you can put the different scenarios because here in Panama the majority of it will go to the cheap way with no money and after say one year they say hey yeah we need the one with the money. So yes, that will be awesome to include.

Victor: And actually Nicole, that's a motivation for the teachers to invest in education you know the teachers the first time because you know the schools realize that if the teachers are investing in the education the school has to be investing in education. So that's a good initial, that's great that's great.

Nicole: Alright, that sounds really great, do you guys have any additional recommendations, any additional questions, I think we have really great stepping stone to go off of as we start to continue on with our research and start to actually build this in the next few weeks.

Victor: Okay

Nicole: Any additional comments?

Victor: I do not have questions maybe in a few hours later but not right now, I'll email you for something recent I don't know if I have questions, but I am good right now.

Nicole: Do you have both of our contact information,

Victor: I have one email, let me see

Nicole: I can also send both of our emails um in like WhatsApp because I know...

Victor: Perfect

Nicole: ...your information for WhatsApp and I can send that there, if you guys have any questions or anything you guys would like to send us in the next few weeks of whatever. I think the email that was sent should go directly to both of us but I can send both individual emails as well. If we have any questions down the line, would there be any preferred method for either of you if we would like to contact you whether it be how to use moodle platform, or anything like that. Where could we get in contact with you or where would you like to be contacted at?

Alex: Yeah for me the most let's say fast way is you can write it on WhatsApp I can see it right away and answer you right away

Victor: Me too

Alex: But if you would like a more formal that everything gets tracked you can do it via email. But for me to be it on the fast track it will be email.

Nicole: Okay

Alex: Because I can basically I am attached to this little guy and all the messages I see it here. So if you write to me I will see it and I will give you an answer right away.

Nicole: Okay

Victor: Me too Nicole. WhatsApp is the fastest way.

Alex: Yeah please

Nicole: Thank you so much I will make sure to send over both of our emails to you via WhatsApp in, right after this meeting, and as we finish up our project and we finish up our report we will definitely send both of those to you as well

Alex: Also if you can, if you have a crazy question of the content just go ahead and ask, or if you need the website we sent and all of that and we will send it to you right away via WhatsApp.

Nicole: Okay good, thank you so so much, Will and I both appreciate it and we will hopefully be in contact in the next few weeks with our final project.

Victor: Great, Thank you Nicole

Alex: Thank you

Victor: Have a nice day

Nicole: You as well, have a great day!