Evan Schneider:
Hello, this is Evan Schneider. And welcome to Let's Talk About, produced by the Pace Center for Civic Engagement at Princeton University. In this season of Let's Talk About, we are featuring Princeton University students who are passionate about making service a part of their Princeton experience, and living lives of service after they graduate.

Evan Schneider:
Daniel Alber is a second year PhD student here at Princeton studying chemical and biological engineering, where his research centers around how lungs grow and shape themselves. This year, Daniel helped to organize the Princeton Online Tutoring Network, a free online tutoring platform that matches Princeton students, staff, and faculty with underserved students in the local community. Within POTN, Daniel is a site coordinator for Corner House, a local organization that works with families to prevent and treat issues related to addiction and substance abuse. When he's not doing research, volunteering with POTN, or working toward a career in academia, Daniel enjoys fitness, hiking and cooking. Daniel, thank you so much for joining us today. It's a pleasure to have you.

Daniel Alber:
Yeah, it's great to be here.

Evan Schneider:
So I'm going to start off by giving you an opportunity to talk a little bit about the Princeton Online Tutoring Network, just what it is and what your role is with them.

Daniel Alber:
Yeah, so POTN is a completely online tutoring resource that currently provides free online tutoring to underserved students in the local community. And we do that by matching K-12 students with Princeton students, staff, and faculty tutors. And POTN was founded back in March as a direct response to the disruption of academic progress caused by the suspension of in-person classes due to the COVID-19 pandemic. And so we partner with community organizations that already work with local youth to provide tailored academic support. And so my role with POTN from the beginning kind of has been as a site coordinator. So one of our community partners is Corner House, and I've kind of been managing the partnership with Corner House. So I've been working with tutors, working with the students from Corner House directly, and with Corner House representatives to work on providing the best solution we possibly can for them.

Evan Schneider:
And just out of curiosity, how did you get involved originally? Like why did you want to be involved, and how did you hear about POTN?

Daniel Alber:
Yeah, so back before everything kind of shut down, I had just started working with PUPP, it's Princeton University Preparatory Program, and I had been working with them as a tutor. And then everything shut down and I kind of contacted them to see if we could start online tutoring or something like that. And I got an email from professor JP Singh in computer science that was kind of gauging interest or collecting interest in Princeton community members that would want to tutor through this new initiative. And I
immediately reached out, because I wanted to get involved at an organizational level or in any way that I could, because I really thought that this was the solution, or the best solution at the time. And so I got started right at the beginning, right after kind of the idea was formulated. And I got started right, yeah, with a great team of staff and a great team of students.

Evan Schneider:
Yeah. We actually have had Jason Klugman on this program as well, talking about education and COVID-19, and sort of especially thinking about what all of it means for folks who are applying to college and haven't taken their tests. And actually, since that interview was recorded, Princeton announced that they're not going to be considering standardized test scores in their admissions process this year. And actually Jason, he predicted that that would be the case and said it's going to be interesting to see what happens in the years after this year, because it's going to be hard to rewind that policy once you sort of undo it. So I want to talk a little bit about the challenges of online tutoring. I was involved a little bit at the beginning of POTN myself and there were a lot of things that needed to be figured out, and one of them is safety and security and thinking about how to protect the people that you're working with, especially because they're minors.

Daniel Alber:
Yeah. So that's been a big thing that we've thought about from the very beginning. So this kind of really highlights one of the key differences between in-person tutoring and online tutoring, and it's that we don't really have a good roadmap for how to manage digital spaces. And so we want to keep everyone safe, and we kind of know how to do that in person pretty well. So a normal tutoring session, if anybody's ever tutored before, is that you show up to a public space with a student and you kind of sit maybe in the library where there are other tutors and students around, and you work on your own thing. But in this case, we have these digital spaces, and we kind of have walls between different groups. So we wanted to make sure by working with the minors policy committee to maximize everyone's safety and minimize everyone's risk.

Daniel Alber:
And we worked a lot on that. And the final solution was to bring in a minimum two to one tutor to student ratio. So the idea is to just not ever have just a student and a tutor in the same room by themselves. And when we do offer tutoring support to a small number of students, so for example, Corner House had under 15 students, they're not all going to be in the same classes. So if each student needs individual support, we're going to look at a two tutor, one student model. And that sounds really strange to most people that have tutored, because it sounds kind of like a, too many cooks in the kitchen scenario. And we had a lot of uncertainty. I was really uncertain about whether this would work. And it really worked a lot better than I expected personally. Having two tutors in a room, in a digital room is actually very effective, because tutoring online is much more challenging than in person. And that's for both technical reasons and also kind of, it's a lot harder to form a connection.

Daniel Alber:
And when you are tutoring a student, it's really great to have a second tutor to help you and to assist you, and to also kind of pass on the tutoring session at one point if you want to go find some resources or figure out a technical issue. So although we had a lot of uncertainty and I was really uncertain at the beginning about a two to one tutor to student ratio, now that we've had tutors working with us for a few months, we really thought about this a lot. We talked with them a lot about this. All of our tutors
love it, and it's actually a huge challenge now, because as people get involved this is the thing they're most uncertain about, having another tutor in the room with them. And we've been trying to get them to talk to our tutors that already work with us and see it's not that bad, and it's actually a beneficial thing. So it kind of started out as a safety policy, but I think we really stumbled upon a really effective online tutoring model.

Evan Schneider:
That's really great to hear. I know that one of the other requirements is that one of those people in the room has to have a background check. Is that correct?

Daniel Alber:
That's correct. Yeah. And the other person has to have a pending background check.

Evan Schneider:
Okay. Yeah. So it has to be underway or, yeah.

Daniel Alber:
Right.

Evan Schneider:
That was such a difficult problem to solve, and I think especially at an institution like Princeton, there were a lot of layers of approval that that solution needed to go through in order to be implemented.

Daniel Alber:
Right.

Evan Schneider:
So you mentioned Corner House a couple of times. So I want to give you an opportunity to tell us what Corner House is, what their sort of mission is in the Princeton area, and how does POTN tailor the tutoring sessions specifically for Corner House youth?

Daniel Alber:
Yeah. So Corner House works with local families to prevent and treat issues related to addiction and substance abuse. So they really work with more than just youth, but we've partnered with them to provide academic tutoring support to their youth. The way we've tailored that, there are kind of more obvious things and less obvious things. One of the more obvious things is for example, they have students that want to get tutored in SATs, for the SATs. And so we've actually rolled out a small group model there, where several students work with a couple of tutors. We at the end had three students working with two tutors. So that's a group of five people all working on an SAT tutoring. And that's been a little different from other organizations, where their students just want academic support for their classes.

Daniel Alber:
In addition, we've really tried to think about how to build community. It's really, really challenging to maintain, much less build community in an online setting. And for Corner House, that's really important,
because a lot of their programming has been in person, and it's really important to them and to their youth to have that in person connection. And so even providing a place where all the youth can get together, all the students can get together, and just talk with each other and just kind of interact with each other because we've all been socially distanced has also been something we've been thinking about. And that's really challenging, because just beyond just the tutoring, we're really working on providing overall support to these students, specifically focusing on academic. And then the last thing is that the kids are really great. They're really enthusiastic. And they were asking us for more tutoring sessions. So we've been thinking about how to appropriately scale up within our partnership, and how to provide more tutoring sessions while making sure that everyone has enough bandwidth for all the things that they're doing.

Evan Schneider:
That's really encouraging to hear. I don't know a lot of kids who would want to have more tutoring sessions, so they must be pretty effective.

Daniel Alber:
Yeah. It's really interesting. You would think that with the change in classes, people start to maybe pay attention less to their classes, or like you said, now testing has kind of taken a back seat. A lot of testing has been canceled or isn't required, but our students are really, they really want to learn. And every time they show up, every week, they're there to learn. So I've substituted in for tutors a few times, and all of those times, we tutor for about an hour. At the end of the hour, the student wants to keep going. They're like, can we do more? Can we do more? Can we do more? So that's really encouraging, and that really speaks to our tutors and the quality of our tutors.

Evan Schneider:
Yeah. It sounds like the relationships have become really important as well.

Daniel Alber:
Absolutely. Yeah. And building those relationships digitally is something we're thinking about a lot. It's really, really difficult. And that's why I'm really giving a lot of props to our tutors. That's not an easy thing to do. And especially, I think if you have two tutors and one student, that can be very intimidating for the student.

Evan Schneider:
I'm just curious, I'm wondering if you've thought about building relationships through online gaming or something like that, where everyone could sort of be a part of a team, or you could split up into two different teams and play against each other. I don't know if there's appropriate video games for that. I'm not much of a gamer myself, but I'm just wondering if you guys have considered that as an option for sort of building community.

Daniel Alber:
Yeah. I mean, making things fun and doing team activities is something we really think about. So the Corner House model that we went with in the spring was to have everybody come into a big Zoom. So it's all in Zoom, everything's in Zoom now. So everybody comes into one big Zoom meeting, and we would do an activity or a game like you're saying at the beginning. It's not a video game, but it's some sort of 10, 15 minute activity where we're trying to get everyone to talk, everyone to learn a little more
about each other, but we've got 30 people in the room almost. So it's a little challenging. And yeah, now that we're in the summer, we're really thinking about how to incorporate fun into this. And that's really, I think you're absolutely right. Fun or fun activities are the way to build community. It's hard to build community when everyone's doing math problems.

Evan Schneider:
For sure. All right. So I want to shift gears a little bit and talk a little bit about academia. You're a PhD student, I know you're interested in going into the world of academia. First, I want to know in terms of pedagogy and what you're learning about tutoring and teaching through this process, are you going to have takeaways that you feel like you can incorporate into the classroom when you're in that position from doing the POTN?

Daniel Alber:
Absolutely. Yeah. I mean, so education, on the career trajectory I'm on, education is going to be a part of my life forever. And tutoring itself will teach you a little bit about pedagogy and how to teach, and that's something I'm definitely still learning to say the least. But POTN specifically, because it's online it's been teaching me a little more about how to educate online and kind of what works and what doesn't. And even before the pandemic, I mean, a lot of things were becoming more digital. A lot of classes were being taught with an increasing digital component, and that's kind of the direction things are moving in. And working with POTN has kind of made me really think about that head-on, and really think about what works and what doesn't, and are there limitations to online teaching? And that's something I'm going to be learning about for a long time I think, but working on solutions and being able to try things is really useful. Because I think in a classroom setting, especially in a university classroom setting, you have a syllabus and you kind of might feel locked into a model, or you might be getting policies that you have to abide by.

Daniel Alber:
But here we're really just, it's kind of like a startup culture where we're just trying things and seeing what works and learning as quickly as possible. So that's been really useful, and that's kind of accelerated my learning about online teaching. And then the last part of that is that the students that we work with and the community partners that we work with have been really valuable for me personally, because I'm learning a lot more about communities that I didn't grow up in, communities that I may not have interacted with a lot before. And I'm learning more about what the pre-college experience is, because I think that if I go into academia and I start teaching college students, it's really important to know where they might've come from, what kind of resources they might have had, and how to approach that. And so that's been something that's been really valuable with POTN, and a big part of why I've enjoyed working with our students so much.

Evan Schneider:
And you're in CBE, which are folks who aren't part of the Princeton community stands for chemical and biological engineering. You're in the CBE program, you're a PhD student. You're a second year. Are you going into your second year?

Daniel Alber:
I'm going into my second year.
Evan Schneider:
All right. So you've completed a year. I'm not as familiar with sort of the hard sciences, and what a PhD in that looks like. Can you just kind of give a big picture perspective of what it's like to be a PhD student at Princeton in CBE, in the hard sciences?

Daniel Alber:
Yeah. So I can speak specifically to CBE. I know a little bit less about the other hard sciences. Typically, it's about a five year PhD program where the first year is heavily course-based. So we take a lot of classes. It's pretty similar to maybe the last year of undergraduate learning, where we have a full course load, but it's at the graduate level. And then we're also looking for labs. So at Princeton specifically, we will find a lab in the first semester, and join by the second semester. And once we've joined the lab, we kind of pick a thesis project, and that's what we're going to work on for the next five years. And it's a long journey for sure, but it's really rewarding. And it's ultimately the reason why I came to Princeton and why I chose this career path. So yeah, it's this big project with a looming deadline in five years, and you kind of get started on something completely new, something nobody's done before.

Evan Schneider:
And for folks who aren't aware, just, can you tell us what actually happens in chemical and biological engineering? Like, are you designing medicine? Are you designing nano robots? I think there's, maybe both of those things could fit in chemical and biological engineering, but I want to know what you have to say about it.

Daniel Alber:
Yeah. So the reason that I decided to go to major in chemical engineering in college and then get a PhD in CBE is because almost anything can fit into chemical and biological engineering. In our department, we have groups that work on catalysis and battery technologies and things like that, and we have groups that work on bacteria and then my group, we study the lungs. So I'll be studying the lungs for the next five years. So these things don't seem like they have a lot in common, but one great thing about the sciences is that if you have a good foundation and a good background, it gives you the resources you need and the knowledge you need to tackle these problems from a quantitative perspective, and from kind of an organized scientific approach. So really if you're interested in anything, chemical engineering might be the way to get that foundation.

Evan Schneider:
So Daniel, the world is obviously changing, and probably has already changed due to the coronavirus, especially the world of education. And I'm just curious to get your take on how you think it's changed, and what the implications are for the future.

Daniel Alber:
Yeah. That's a great question. And I want to clarify that my experience and my role is very new in all of this, and there are people who spend their careers thinking about this. So this is coming from a naive perspective, and really from a student's perspective more than a teacher's perspective. But we're really thinking about digital space versus physical space, and for community partners that we work with, for example Corner House, the idea of having a physical space that students can come into and work on schoolwork is actually very important beyond just academic support. And making that digital space be equivalent is very difficult. I think everybody knows by now, because they've been doing things online,
that you may think that you have a really great digital space, but then somebody opens the door and comes in and distracts you, or you look out the window, or you're in your childhood bedroom and you see the toys you grew up with, it doesn't feel the same.

Daniel Alber:
And so building a digital space where kids can learn really effectively, and almost be separated a little bit from the normal space that they're in, is something that we're thinking a lot about. And it's not something that has a great solution, because at the end of the day, you're looking at a small screen within a very big picture of wherever you are. And that's really one thing where students from different backgrounds can have really different experiences. Having just a quiet, dedicated place to work is a big deal, and not all students have access to that. And figuring that out in a digital setting is very, very difficult. We thought about using headphones, working with the students to find a space they can go, but really if somebody had it figured out, either let me know, or I think I probably would've heard about it by now.

Daniel Alber:
And then another really big thing is community. Like I mentioned earlier, when you're in a classroom, you are learning with other students. And really importantly, the teacher can kind of look at you and understand whether you're understanding. And so I'll be AIing in the fall, and this is something that my professors have expressed troubles with, because they don't know if the students are understanding. Especially if, I mean, your camera could be off. A normal classroom is everyone's cameras and mics are off. So it's really hard to understand if students are engaged, and whether they're understanding what you're saying or with the material. And there are a whole bunch of other things. I think that most people will agree that in person instruction is more effective. The state of online instruction now, it's less effective for learning. So we're really thinking about what can we do to at least bridge that gap as much as we can. And thinking about what the new normal will look like, we have ideas, but I think ultimately, like I said, if somebody had it figured out, I think it would explode right now. I mean, everybody would be using it because this is such a big issue. So this is really something that we need smart people thinking about and working on. And yeah, if anybody has any ideas, please find me.

Evan Schneider:
Yeah. It makes me think of, I don't know if you've read the book, have you read the book Ready Player One?

Daniel Alber:
I've heard about it.

Evan Schneider:
And the concept is that basically virtual reality technology has been created, so you can kind of like put on these glasses or whatever that enable you to enter into, fully enter into the world. It makes it feel like you're physically there, even though you're actually physically sitting by yourself in a room or something like that. And it sounds like that's the solution you need, but I don't know if technology exists.

Daniel Alber:
Yeah. I mean, you actually bring up a great point. So with regards to virtual reality, so for undergrad, I went to Stanford and I still have a lot of friends that are still in the Bay area. And some of them are
working on education technologies, have been working on them for a couple of years now. And a lot of them are VR immersive technologies like you're referencing. And they actually, they work decently well. I mean, you feel like you're in a classroom, but deploying a solution to the Palo Alto area or the Bay area is very different from deploying a solution in Trenton, New Jersey. And the resources that we have to work with are very different. So a big factor in the solutions that we're thinking about is, can we come up with kind of pedagogical people-focused solutions, as opposed to just technology solutions because funding right now, we're not sure about.

Evan Schneider:
I actually think that's really smart and important wherever you are, whether you're in Palo Alto or in Trenton, because if you have a solution that's all technology based and you haven't done the work of thinking through how this actually affects the people that are going to be using it and what interpersonal issues that can arise and what cultural issues that it intersects with, if you're not doing that work, you're not really preparing and making sure that the solution is going to be a good one for everyone.

Daniel Alber:
Yeah. And ultimately, I think that online instruction is just going to have some fundamental differences. So trying to replicate in person as much as possible through online, it may not be the way to go. The best transportation option isn't a really fast horse and carriage, it's a car. So thinking about solutions from that perspective, it's really challenging because you have to come up with something really new. And we haven't, I mean, I haven't done it yet and our team hasn't done it yet, but I think it's the right way to go.

Evan Schneider:
It's an interesting challenge to pose. I'm interested in hearing more in the future. I'm going to kind of bring us to a close a little bit and ask you our two final questions that we'd like to ask everyone. The first one is, what are you feeling passionate about right now?

Daniel Alber:
Yeah, that's a great question. I'm feeling passionate about a lot of things, but a lot of the issues that I care about I think can be traced back to education. So I'm really passionate about education and I have been for a while. And I think that we're in a tough position right now with regards to how we're forced to engage in teaching, and the kind of discrepancies we're starting to see between students from populations with more resources or less resources. And I'm really passionate about figuring out how to learn from this, and improve both in person and online instruction, and really kind of think about pedagogy in a new way. And really just tackling kind of the education system in our country. I think that we have a lot of opportunities to provide better education to students. And it's not something that just I'm passionate about. We had a lot of responses. That first survey I talked about, the email that I responded to was gauging interest, and we had over hundred responses from mostly Princeton students that wanted to get involved. So I think that a lot of people like me are feeling really passionate about education right now.

Evan Schneider:
Yeah. I think there is an opportunity to address educational inequities. And thinking about remote education opportunities, it's one of the areas of society that I personally ring my hands about a lot,
because even if you're not a teacher, even if you don't have a kid in the educational system, if you own a home, you're participating in one way or another in funding education in America. And the choice you make as to where you live is a political choice, whether or not you want to recognize it as one. And I live in an area that has really great school systems, and part of the reason I chose to live here is because there's really great school systems and my daughter has a lot of special needs. And so we want her to have the support that she needs in learning.

Evan Schneider:
But I also recognize that I have the privilege to be able to choose between different school districts, and a lot of people out there don't. I don't like the fact that my daughter has access to things that other kids just like her around the country don't have access to. For me, it's an ethical dilemma that doesn't really have a very good answer. But I do think that from a remote standpoint, there are possibilities there that provide a different way of thinking about it that isn't so location centric, in terms of basically because of where you live determines where you go to school.

Daniel Alber:
Yeah, absolutely. I think that online tutoring used to be associated more with the highest price tier of tutoring. You would have an online tutor, who'd be far away because they're the best. And now that everyone is thinking about how to best instruct online, we've got a lot more interest and brain power working on the solution. And so you're right, this might be a good way to address inequities from a perspective where we can deploy the solution more rapidly. Because I think a lot of the systemic changes take much longer to deploy, and we deployed in about a month from that first email to when we had our first tutoring session. So really fast, we kind of filled a need or are working on filling a need still. And this might be one of the ways to address inequities.

Evan Schneider:
And what in the world is giving you hope right now?

Daniel Alber:
Yeah. Well, I have a couple answers to this. So back in March, like I said, when professors Singh from computer science sent out that first email gauging interest on POTN, it had been a week or two since Princeton had kind of shut down. There were over 400 responses and that is huge. And I want to be clear that this is back in March, this is kind of before conversations like this were really hitting mainstream. And we got a lot of students invested and interested right from the beginning who have put in serious time and effort. I mean, they've been super passionate. We had a group of seniors that have graduated since, Fleming Peck, Lira Katzman, and Claire Guthrie, that took on leadership positions with us and put in a lot of time and effort working on these solutions. In my personal team with Corner House, I had a couple of really great students, Kathleen Kong, and [Kenar Vyas 00:27:09], who also put in a lot of time and effort.

Daniel Alber:
And all these people are putting in a lot of heart and soul, and it's not to get anything back. They saw this, they saw that there was a need. And when I was working with them, I saw that they really were truly passionate. I mean, they were really putting in, I can't emphasize this enough, a lot of time and work into this at a time when they had a lot of other things to do. And that gives me a lot of hope, because as we've been moving on with POTN, the one issue we've never had is finding people that want
to help. Now, that's only been amplified over the events of the past month, but even before that, just seeing how many people in the Princeton community wanted to help with this and really wanted to help for real was really inspiring.

Daniel Alber:
And then the other thing is, so I've also been interacting with a small group of students through Corner House that we've been tutoring, and seeing how passionate they are about education and really getting control of their education and using their time with us as best as they can has been really inspiring. I mean, after the Black Lives Matter protests started, we had a meeting within a few days, a tutoring session, and I wasn't sure how many students would show up, if they would be in a place to show up. And we had almost everybody show up and they gave it their all that tutoring session, and they really valued their time with us. And they really try really hard. And that's been really inspiring, because I think ultimately hope is about the future, and it sounds cheesy, but the future is kids. And if we can give them the resources that they need to reach the next level to do what they want to do, that's all I really need.

Evan Schneider:
Daniel, thank you so much for joining us today. Thank you for the work that you've been doing on POTN and with Corner House. I wish you the best in the coming year as you enter into another year of sort of online education, and I hope you get to stay plugged in. You can tell you're bringing a lot of value to the work that's going on with POTN and Corner House, so thank you so much.

Daniel Alber:
Yeah. Thank you very much for giving me a place to talk about this.

Evan Schneider:
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