A San Francisco Education Fund Salon Event – September 20, 2023

"Accelerating Learning: In Conversation with Susanna Loeb and Michael Lombardo" - FULL TRANSCRIPT

On Sept. 20, 2023, the Ed Fund hosted a salon event to deepen the conversation about high-impact tutoring and further our goals with the Ed Fund's Accelerate Learning SF initiative. We welcomed two distinguished guests and learning acceleration experts – Michael Lombardo and Susanna Loeb – to engage in a panel-style conversation about high-impact tutoring.

As we move forward with Accelerate Learning SF, we remain steadfast in our commitment to the students of San Francisco. High-impact tutoring is not just an intervention; it's a catalyst for positive change in our educational landscape. To learn more about the impact we are making with Accelerate Learning SF, we invite you to read about our event launch in March 2023, or our latest Summer 2023 update.

If you'd like to help the Ed Fund reach more students with high impact tutoring, please consider making a contribution to Accelerate Learning SF.

Together, we can reach over 10,000 students and help their learning move beyond the pandemic.

EVENT SPEAKERS

Susanna Loeb is a Professor at the Stanford Graduate School of Education. She was Director of the Annenberg Institute at Brown University, where she was also Professor of Education and of International and Public Affairs and the founder and acting executive director of the National Student Support Accelerator, which aims to expand access to relationship-based, high-impact tutoring in response to the Covid-19 pandemic. Susanna's research focuses broadly on education policy and its role in improving educational opportunities for students.

Michael Lombardo is Chairman of the BookNook Board of Directors, having founded the company in 2016. BookNook is an award-winning social enterprise that uses adaptive technologies to support reading skill growth at school, at home, and in the community. Prior to founding BookNook, Michael served as CEO of Reading Partners, building it into one of the

largest children's literacy nonprofits in America and publishing seminal research on volunteer-based reading programs that was accepted into the What Works Clearinghouse at the U.S. Department of Education.

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TRANSCRIPT

Ann Walden (AW): You both are working in and thinking about the most innovative and effective ways to create, implement, scale high impact tutoring. So, I want to begin by having us understand what that means, why we should be excited about it, and why you're excited about it. Susanna, what are the key components or characteristics that distinguish high impact learning from other academic supports or interventions? Michael, based on your work, what would you say are the most critical factors that are required for the success of high impact tutoring?

Susanna Loeb (SL): When the pandemic happened, we just looked around to see what we knew in the literature about what could really accelerate students learning and that's a hard thing to do. You can make a whole school better and move things a little bit faster. But if you want to take a student and really accelerate their learning, it turns out that the only thing we really know how to do, that we know does this, is having an adult who knows the student and works with them intensively and can target the instruction towards that.

I think there are two aspects of high impact tutoring. One is a really strong relationship and that tends to come from a consistent tutor with good supports and then targeting. And the targeting comes from data and good materials. I think those two things are really important. The other thing that I would just note is that the research has been really impressive on this, more than really on anything else.

But you can also just look at the demand out there. Prior to the pandemic, private tutoring was a $40+ billion industry in the United States. We're all bringing that to our kids when they need it because we have enough money to do that. But so many kids in the U.S. don't have that. And so it seems like such a fundamental part of what education is that it's really important not only that you have that adult and that good targeting and quality instruction, but that it's actually part of the school day. It's really the only way that you can reach all the students. That's what schools do, they reach all the students. And I think those two things and in school are what we know about high impact tutoring.

Michael Lombardo (ML): I would double down on the idea that tutoring prior to the pandemic was largely exacerbating inequality, right? Students who could afford it got it, students who couldn't didn't. We've inverted that through this tremendous infusion of public and philanthropic capital into the system to say, actually, you're not going to get tutoring based on whether your family can afford it; you're going to get tutoring based on [if] you need it. TO Susanna's point about data, we actually see it's making a difference. One of the things we're able to do using technology-based programs like BookNook is to work closely with school systems, not just to target students and decide who will benefit most from what are still, unfortunately, limited resources, but then also to monitor their progress in real time and understand are they actually responding to the intervention.

Oftentimes tutoring is done in what is called a tier two or tier three intervention, meaning students being removed from core classroom instruction, that's where they're receiving tutoring. Susanna referenced that literature is pretty clear that students who get the tutoring during the school day tend to show more gains than students who get tutoring after school in other contexts.

But that also means they're missing out on classroom time. So, we really try to work closely with school systems and with policy makers to understand both what is the student missing and making sure that we minimize disruption in other parts of their lives. But then also, because we are taking them out of classroom instruction, is the tutoring making a difference and moving the needle for the student?

Because if it isn't, we should put them back in the classroom, right? I think that's really important, understanding the kind of universe around tutoring. The other piece is family engagement. One of the things I'm proud that we've been able to do here in San Francisco is provide tutoring that's happened both at school and at home. Home-based tutoring tends to have lower attendance; families are busy, they have lots going on in their lives, or what it's like as a single mom to think about these academic supports.

But really involving families, helping them feel like they are a part of the solution, and helping them be aware of the support that their children are receiving is crucial to the success of tutoring. Because at the bottom of it, as Susanna referenced, is this idea of an adult telling you, you can do this, I believe in you, and then following it up with really rigorous data-based instruction.

AW: One of the things that occurred to me as I was prepping for this panel was every time I think and talk about high-impact tutoring, I tend to lean towards literacy programs. And I know that you ran two literacy programs, so I'd be curious to hear *why literacy* and is it as adaptable to other core subject areas? Are there better ones or are there worse ones?

ML: There's been a lot of energy about the science of reading, and now we're just starting to see noise about the science of math, and I'm excited to see how that evolves. As Susanna knows, it's a little bit of the artifact of the literature. There were a bunch of studies that were done in the 90s that were looking at correlation between early childhood indicators and long-term success in school, college and life. And researchers, for whatever reason, kind of gravitated towards early reading, and so we have this really great body of research that came out, and everyone got very excited about reading.

Since then there's been a lot of research on math as a predictor too, both early math and particularly algebra in middle school as an incredibly strong predictor of college attendance. I tend to think of literacy as kind of the bedrock; the foundation on which all of the learning sits.

Teachers have a saying that up until around third grade you're learning to read, after that you're reading to learn.

If students don't master those foundational skills early in their academic career, it's going to be a disadvantage to them in every other subject in which they apply themselves. And then I think as somebody who, as you referenced, has worked in literacy for a while, when you struggle with math, you just become a non-profit leader. And when you struggle with reading, it affects your sense of self. Students tend to have much more psycho-social impact from their sense of themselves as readers. I think there's also an importance there; helping students feel like they belong, feel like when they get called on in class and have to read aloud, they're not going to be embarrassed, and those kinds of things are really, really powerful.

SL: I do think there's pretty good evidence both on literacy and on math. There's been a lot more done on literacy, because elementary schools really have focused in the past a lot more on literacy than they do on math, and that's not necessarily how we should design younger grade elementary school, but that's pretty much how we did design it.

So now that math is getting more important in the early years, there's some studies. We're about to do one. One approach that I really like is there are all these paraprofessionals in the early grades, and you can train paraprofessionals and give them really good content. And they can pull off really good reading instruction and really good math instruction.

And there are some programs that have done that. But they spend a lot of time with the paraprofessionals. And the paraprofessionals don't have the training to control the classroom, or design the curriculum, and all of those kinds of things. But they can, with good materials, really work with students.

And so, I think that's really promising. But at the algebra level, there's some really, really nice results out there. There was a study done in Chicago Public Schools where this is kids who were many, many years behind grade level in, in high school doing algebra, and they made two and a half years of progress in a year doing this thing called saga math.

It was intensive, two kids with one tutor every day all year, but it was really impressive. And people have this sense that high school students can't learn; we have go to the early elementary school. That turned out not to be the case. You do have to inspire them to learn, and they have to feel like somebody cares that they're doing this. And not just give them the whole algebra class again. But we can really figure out what it is that they don't understand so that they can learn more quickly. I think we've got a great potential to do that out there.

AW: I'm going to follow up on that a little bit. We often think about tutoring as catching kids up. It's a catch-up model. But given all the things that you're saying, can you talk a little bit more about the impact that tutoring could have on redesigning the way we think about what's happening in the classroom at large?

ML: Tutoring is a word we use to describe essentially low instructional ratios. are like, number of students to the adult is much lower than we think of a traditional classroom. But teachers have known for a long time that the most effective instruction is usually when you are able to pull a group of students out, or an individual student out. We've seen a lot of integration of things like paraprofessionals and classroom aids and interventionists that are trying to sort of be able to break that 20 or 30 kid classroom into smaller learning communities that might be more homogenous in terms of their needs. So if you've got a few kids, you know, are really struggling with this one concept, you can work with them on it, the rest of the class can do kind of independent work.

I think it's important to think of tutoring as kind of on the spectrum of saying, how ultimately are we personalizing education as much as possible? How are we taking a classroom of 30 students that have varying learning needs, varying learning styles and trying to make that experience as tailored as possible? Tutoring makes it fairly easy because you're in a very low instructional ratio. It's much easier to do that for, for two kids than it is for eight. But the headline of how we break the classroom down into more manageable groups is something that I think will continue to be a theme for educators beyond just the world of tutoring.

As we think about kind of how the classrooms operate in the future, as teacher shortages continue to affect schools, and returning to paraprofessionals more and more to pick up some of that slack. So I think the 30:1 style teaching is viewed as an important part of the toolkit, but not the best way to reach students. And so, it's sort of thinking about how do these other more innovative approaches bridge that need and personalize that need.

SL: I think that's just right. We've kind of structured schools, so the kids are all day, every day, in 30:1 classrooms or 25:1 classrooms.

You can just imagine how much more effective it would be if they could, with the same resources, have some kind of big classes, where most of the learning goes on with discussions among the students, and there's a little bit less direct instruction in the way that you would have this adult.

And then some time that's really more one on one, one on two, maybe one on three, I think it's harder when you start to get too much beyond that, where they can learn some of the things where it's really about their understanding of a particular concept and not this kind of learning how to discuss something and learn from each other, which I think is a very important part of learning, too. I wouldn't want all of school to be one adult and one child. They'd probably learn a lot of the math curriculum, but they would miss a lot of what you really learn in school. I think we can do a lot better than that. I also think it doesn't naturally happen when you just put more adults in. Teachers have a lot going on; they don't know what to do with the other adults in the classroom. Or if you, if you put two teachers in, they want to do the same thing with smaller

groups. So they'll split 30 kids into 15 kids. That's not really helping very much. Maybe it's reducing a little bit of the strain on the teachers and there are reasons that that might be a little better. But you're not getting that real benefit of the time where a student knows that you're focusing on them.

So I really think we need kind of structured ways of saying we're going to try this specific thing, and it has to be supported by strong curriculum and something really directed at what the student needs. So I think there's a lot that students can do or schools can do, and there's ways that you can build with structures that are already in the system, like the MTSS system, the tiered systems of support that Michael was talking about, or paraprofessionals. But it may also just be that some of the things we have to rethink. Rethink the schedules and make sure there's time in there for doing this and the space in there for doing this.

AW: A lot of those factors that you're talking about are structures. But we're also in the land of tech, and you come with an adaptive technology background. Are you seeing possibilities for us to learn and leverage adaptive technology more in this work and then, Susanna, do you see these innovative approaches impacting policy?

ML: I think the possibility for technology to enhance human disruption has never been greater, and I think we are in act one of the three act play when it comes to how AI will affect schools.

Act one is sort of like, “Ahh, my kid's cheating, oh my goodness, and how am I going to know who wrote this essay - ChatGPT, or my student?” I think act two, which we're starting to move into, is sort of beginning to create structure, both at the technology level of how these tools are designed, the kind of guardrails that are built into them, and prompt controls, but also how teachers become better educated to use these tools in the classroom because they can actually be profoundly effective.

And as I was saying before, in personalizing that student experience, adaptive AI can be great at that. I'm not going to speak for Susanna, but I think probably we both say that the human still really matters. Neither of us sees a future in which kids are going to learn purely from adaptive technology and where an AI teacher or tutor is going to do the entire job.

But the ways in which, again, in the context of increasing labor shortages in education that are particularly acute here in San Francisco, the way we can leverage those kinds of tools to give teachers back time and make the classroom more manageable, [and] adapt quickly and on the fly to students’ needs, are tremendously exciting.

Tutoring's kind of an old-fashioned intervention in a lot of ways, but I think the way that it can leverage technology is actually right at the cutting edge right now.

SL: I completely agree. I think the thing to realize with these technologies that kids can opt into and where they have the responsibility to go in and make it work. The kids who don't like

school are not going to be the ones that decide to use the technology. So they hurt equity if you just give them to everybody. But that doesn't mean you can't leverage them, as long as you keep that kind of force against the equity in mind.

For example, you could have more time for the kids who are really disengaged in school and need that adult attention. If you gave the kids who didn't get a little more time with the AI. Or you could think that if you build this relationship over four days; right now the tutoring is five days, and maybe you could do it four days and one day they're on it because that's creating enough sense of being a student and wanting to do something and show your tutor you've got it, that a student could be on that a little longer.

I think there's some ways that it can really help the students directly. But I think the powerful thing is how it can help the educators. One of these places that I just saw really big effects on early literacy, they give the tutor a tablet that basically tells them exactly where each student is and what the next thing is that they can, that they should be doing. That is so helpful. It's not crushing, particularly to tutors. Maybe classroom teachers who are master teachers want a lot of flexibility in what they do. Just creating a positive environment for students is like a challenge and an excitement for the tutor. Having this technology help them do that can be really helpful, and there's still a lot of creativity in there. I also think there's lots of room for AI. And I think one of the reasons high-impact tutoring in places like BookNook can be so effective is because we've made lots of technological advances, even just in curriculum. And AI is another one of those things that would push it forward, but I do think it's still kind of, how do you use this right now? Right now it’s just a really, really good textbook, but it's not really different than the, than the kinds of textbooks we've had before.

ML: I do want to take a moment to hit the policy question you asked too, because here in California, we're a little bit behind. There have been a number of states that have been legislating and appropriating pretty aggressively on high-impact tutoring.

The taxonomy of how they do it varies. Some states roll out mandates, like Texas. Other states [have taken] more of a carrot approach. It’s been a little bit of a disappointment that California has not been more active, given the learning acceleration needs here. So I think that makes it extra important that local districts are stepping up and kind of filling that void, because San Francisco Unified doesn't have, like many districts do like in states like Michigan, a dedicated funding stream that they have to spend on tutoring. If you work with school systems, you know that oftentimes it's like what there is allocated categorical spend for is what gets done. So we don't have those same tailwinds that other states have had. It's encouraging nationally to see more of that movement, and hopefully California will eventually get on the bandwagon.

SL: Tennessee wrote it into their funding formula first. And Michigan has put a lot of money in it.

ML: Yeah, 150 million dollars - go Blue! It's an exciting time in that policy makers have – thanks to the efforts of Susanna and her organization and other academic researchers and practitioners out there – have gotten the memo that tutoring works.

It is also one of the few things in education that is not in any way controversial. There's nobody who gets mad about tutoring, and almost everything else we do in school is like something that people get mad about. So it's kind of non-controversial, and it has this halo effect at the socio-emotional level that we've talked about where families feel good about it happening with their students, and it's an easy win in some ways at the political level. That doesn't mean that that's always what happens, but it's encouraging to see states that have seen this. Now, the total aggregate appropriation across all the different states of programs is approaching half a billion dollars a year. It's really getting to be a significant space.

SL: One thing that's really tempting in policy is to say, "Oh, well, we've got these really good programs, we're going to give it to everybody and opt, and they can opt into that." They tried that during the MCLB time around 2000, and a number of states [have] tried it now. That basically just doesn't work. It's kind of the same thing that you have thinking students will opt in is thinking parents will opt in. It's hard for us parents to know what we should be doing. We have so many choices. We may not have time for it. So, it's really important to keep in mind that access really isn't just saying that you'll pay for it; it's really getting it to the students. New Mexico was a good example. They started off by saying, we're going to provide this kind of opt in for everybody. And the opt in programs are like, yes, we'll do it. And they only do it at a reasonable price because they know nobody will opt in.

And it's really true. Some of them are really quite good, so for the kids who take it up, they will learn. They have good tutors in there. It's not that the programs aren't good. It's just that the opt in rate is really, really small, in the 2 percent rate in many cases.

ML: Yeah, I call it the gym membership model.

I think it's also important too, in going back to that family inclusion component, and something that SFUSD has been really thoughtful about, is how we make it easy for families to access these supports if we are going to have a parent engagement component. Going back to Tennessee, we actually did a state program that was funded through a federal grant that Tennessee had to do tutoring in Memphis, which is one of the poorest and most impacted school districts in America.

And the way this state had written the grant, we had so many hoops we had to make these families jump through. We had to do an income eligibility, but it's Memphis; there's 90 percent national school lunch participation. Obviously, these kids are economically disadvantaged. Are we really going to make their parents submit some humiliating document that says how poor they are? They had to go to a state website and opt in. And this will surprise you, but the state of Tennessee is not awesome at building websites, so the website was hard to navigate. It

would send duplicate records to us. And so, to Susanna's point, you have to think about how you're reaching these families.

It's sort of unique in that it has a schedule and cadence to it. Two parties have to show up at the same time, week after week. It has to be the same two people. You can't swap kids and tutors out because then the relationship gets disrupted. And so, just really acknowledging and embracing like, this is an incredibly powerful tool to accelerate student learning, but it's hard.

Like most things in life, we kind of get out what we put in. We have to put a lot in to make tutoring work for kids. But when we do and when we're thoughtful about how students or families access it, it can be life changing.

AW: If we think about a generic district in California, we've talked about the policy, the funding, and family engagement. Are there other factors that tend to be a barrier to implementing high impact tutoring?

ML: Workforce is one that [comes to mind] immediately, and that's why programs like BookNook use virtual tutors, but oftentimes, sadly, are not living in San Francisco. They're living someplace else where you can work for what we can afford to pay a tutor. That tends to be a big barrier for a lot of school districts, including Chicago, which has very ambitious initiatives related to hiring tutors. But there's this inverse relationship; it's like the places where tutoring is most needed, which tend to be urban communities are also the places where cost of living is the highest and so it's hardest for working people to normalize what we can pay for what it costs to live there. That's a huge piece and then I always talk about bandwidth. It's this thing that we don't know how to quantify in schools, but anyone who's worked with a principal knows they're pulled in a million directions.

I'd like to say I've never been in a meeting with a school principal that wasn't interrupted twice. There's so many things we ask schools to do. They have to feed children, they have to be educating them, they have to provide them with physical activity, and so there's just not a lot of bandwidth. Tutoring, because it requires a fair amount of investment to make it happen, is a real struggle. So designing programs that leverage technology and leverage thoughtful family engagement strategies that make it at least a little bit easier to get the tutoring for the kids matter a lot.

I've never talked to anybody working in a school building who says [they have] got a lot of time on [their] hands. Having empathy for that and understanding it [is important].

SL: I will second that. That the thing about tutoring to remember is that it is really hard to implement well, but it's the only thing we know that really accelerates learning.

You want to keep in mind that relationship, targeted instruction, and how you get it to students. It is hard, and money is a big issue. It hasn't been since the pandemic because the

federal government poured tons of money into it. But in the long run, money will always be an issue and I do think that there's lots of ways in the budget that I think about how you could do it, but there's trade-offs. There's always going to be tension around that.

I think the adults and the labor market is hard for everybody right now. Hiring is hard. We actually don't have very much evidence on how good virtual is, and I think there's some kids that can do well in virtual and some kids that don't do as well in virtual. We found some positive effects just even in kindergarten with virtual.

It is possible, but both are good. I think we can get some structures that really help with this. For example, around the country we've been working with teacher preparation programs to make the first year that they're in schools to be tutoring instead of observing in classrooms. That's actually a huge workforce, and that could really make a difference. We put some effort into getting more work study dollars for kids in college to use to be tutors. That's been a pretty good way of getting tutors as well. There are these structures, but it's important to think, where are we going to get the people? Then I think there are two things in schools. One is the bandwidth, but just making sure someone in the school is responsible for making this come off well. You need someone who knows that it's their job and you need to dedicate some time to it. And the last is actually really, really hard, and that is scheduling, particularly in middle school and high school. In elementary school, I think it's not really as so bad, because kids are in the same classroom most of the time, and you can figure out how to build it in to the ways that it works. But middle schools and high schools are really rigid. Their schedules are made by computers, and you need to do some work to think of how to get around that. When you spend a lot of time with districts, [you learn that] schedules are hard in the middle of high school and this is something to try to figure out that's really important.

Audience Question: I'm curious about the data and what the sweet spot is on the labor point for a tutor from who's coming in off the streets and is well-intentioned but unexperienced, vs. someone with a lot of experience? Is there a right level where you're getting the most bang for your buck?

ML: Reading Partners, the nonprofit I led before this was an all volunteer group. Those volunteers came from all walks of life, some of them were high school students, some of them were people [who] had a bachelor's degree. What we showed in multiple randomized control trials was that with the right structure, rigorous high-quality curriculum, somebody in the school making sure that the scheduling and everything went off well, that those folks can be incredibly effective.

We didn't disaggregate the tutor profiles within the Reading Partners RCTs, but in our internal data, we actually found high school students were the most effective tutors. We think that's because of consistency. Once they get locked into that schedule, they're pretty consistent and you know that high school [student] is going to show up week in, week out. Whereas people

like me, working parents, we have work and we miss a session, and around vacation we miss a session.

There's really no reason to think that a person with the right structure and support around them can't be tremendously successful, but that structure and support makes a big difference.

SL: I'll second that. We have a lot of evidence that a lot of different people can be tutors, but they really need that and that this consistency is really important.

College student volunteers tend not to be very good. But if they're on their work study or something like that, it can be much more consistent if we can get work study to pay at the right time. There is a little training, particularly of college students right now, that you have to do to, let them know, you actually have to go every day.

I do think elementary school and the high school is a little different. In high school, if you're going to have somebody teaching math, they really have to understand the math. And so that is a particularly good place to think about the virtual [option], because you're going to have to be pulling people in. And then you also [need to consider] what language the kids speak, and do you want to get tutors who have, different specific skills with the curriculum.

Audience Question 1: I'd love it if you could dig down a little bit deeper into the position that Sal Khan expressed in his TED Talk in April around three different things that you mentioned: language, time savings, and ubiquitous, equitably-oriented availability of AI.

ML: These are three really great points, and the equity point is a great one to tease out because oftentimes the way large language model AI is trained is on mainstream materials that are curtailed for kids the children of college educated parents, who are monolingual in English, and there's been a lot of concern from some of us that see those large language models being turned loose in schools, that they haven't been trained to talk to and engage with the kind of students who most need that kind of support.

I think equity of access is one thing, but then it's like access to what? Was this designed for students who look like me and have my experiences, or was this designed for students who look like Google engineers, and who've had their experiences? It's one thing to think about.

With that said, I think we all see huge potential, and nobody doubts that AI is going to be a central part of how education evolves. Education is a faddish world. There's always kind of the thing that everyone's talking about. Then we see the new shiny object and move towards that.

I think that the heat around it will begin to subside a little bit and it's not going to like revolutionize the classroom. I don't agree with Sal that we're going to have AI teachers teaching kids. But I do think, some of the things that you referenced like time saving. Teaching is a lot of busy work. [They] spend a lot of time writing those performance evaluations, or sort of the end

of the semester, whatever report card the kid's getting, and all of us parents, we all can kind of tell that you're sort of writing the same thing for each kid, but we make teachers go through it.

They also spend a lot of time spent grading assignments, a lot of time spent generating quizzes and assignments. Those are great places where AI can save teachers time, and probably in some cases actually do a better job. If a teacher has to keep in their mind all the things he wants to say about Michael to his parents in that report card, that's a hard thing for any human to do who has 30 kids in the classroom. Whereas an AI is capable of looking back across your notes and performance and looking for patterns, and so there's really cool spaces around that I'm super excited about, as well as being able to integrate into existing learning systems that are helping kids to get more personalized instructions.

There's a tool that's very popular out there called Newsela that tries to take content and adapt it to a readability level based on where the student is in their reading development. There's some controversy about whether that's a good idea or not, but AI is able to fill a role and say, I don't want you to miss out on this important lesson we're doing on the Civil War. Even though you might be having a hard time with reading, we can meet you where you are a little bit, and make sure that you're getting content that enables you to participate. I think that's also super promising.

SL: I agree that it's promising. I think it's not quite there yet. I work with large language models, and we're doing some experiments with tutors, where, for example, tutors are trying to figure out how to respond to students' math mistakes. We're having ChatGPT tell them how to do it, and seeing what that says compares to what an expert teacher would say. It does a terrible job, but if you can feed it more information about the child, like what they know and where they're struggling, then it can give you this better information. I think we're going to get better. That way you can get these inexperienced tutors to be able to be a little bit more flexible and have good responses to what the students say. In the end, I think we'll get there. Right now, you wouldn't want your kids taught by ChatGPT when they're making a mistake. I'm not quite sure where it's going to go.

The other thing is that it's very computer intensive and that's going to be a big cost, too. And right now it's all three. So it's not an issue. But just in the longer run, I think the people who are thinking about developing this is are also trying. What does that mean?

ML: Practice is the other thing I want to touch on. It's really useful for practice. A lot of students who are learning language or learning a new skill need time just to practice it. Again, as a parent of high school kids, getting my daughter to speak French to another human to practice her French... she's never going do that. It's humiliating. But she can talk to an AI that is perfectly patient, that speaks perfect French for hours and hours and hours, and that AI will never get bored of hearing about the things she saw on TikTok. It offers a lot of opportunity there, so that's another space I'm excited about.

Audience Question 2: Can you talk a little more about dosage and what's most effective?

ML: There's a lot of research out there that look at different dosages, and what we call high dosage. Generally speaking, literature says students should spend at least 10 hours or so in tutoring, depending on how you break it up. Some programs are 20 minutes a day, some programs like Reading Partners are 45 minutes twice a week, and at BookNook, we do everything. Dosage matters, without a doubt, and I think it's pretty clear that there's a kind of minimum threshold that we're looking for to see real impact. In a lot of these programs, you also will eventually see a diminishing marginal return, so students will see a lot of gain, and then, unfortunately, often times they approach proficiency and we'll see that line kind of taper off a little bit. It takes more sessions of tutoring to make more gain. The reality is it's not an exact science. With tutoring, generally more is more. Students getting as much of it as possible is going to be beneficial to them.

When I talk to policy makers, it's more about the floor than the ceiling. It's making sure that when we're investing public dollars in programs, that we're not having two percent usage, and that students are getting a meaningful amount of tutoring. If some students get over-tutored or it's less efficient at a certain point, I can live with that because I want every kid to be getting that baseline.

SL: I think it also depends a lot on the grade. In high school you need longer sessions. They really need to be like 45 minutes, 30 minutes to 45 minutes, maybe even a little longer. I do think it's the programs that have had really big effect have tended to be kind of three to four, sometimes even five days a week.

We just saw one program within the classroom for early reading, where it was every day but only about 5-7 minutes a day, because five year olds don't really have long attention spans. It was less about having it long when they're there, and more – which is not so good for online – because there's time to get set up online.

So then it's better done, 30 minutes a day three times a week. But, if you could do it every day in short bursts, then you've got the rest of the day to have relationships, and you can respond to when the little kids can actually pay attention to the thing. So, I think we can save some money and time by that in the younger grades.

ML: I do want to bring back the progress monitoring point too. a lot of times kids get loaded into these programs and then they sort of get tutored all year. It's always a hard trade off because you don't want to disrupt the relationship they have with the tutor. If you are using good data and real-time monitoring, you can tell when that student has reached that point where it's like, okay, we've taken them as far as you're going to take them. You want to open that to another student who can benefit from it since there are never enough tutors to go around. I think the efficiency can be more in tools like that that help us think about who is benefiting from tutoring, how do we make sure that everyone who's in a seat of the precious

few seats in tutoring is getting the most benefit from it, and less about, you know, saying everybody should get 22 sessions. More like, let's look at the data, let's see at what point you're continuing to show progress, at what point you're not really anymore, and then we can find some other student who's going to get more benefit.

Audience question 3: Can you talk a little bit about the school bandwidth issue and how you solve that?

ML: It's really about, as Susanna said, having someone in the building who has it as their job. At Reading Partners, we put an AmeriCorps member in the classroom. Now there's like a human in the building who gets up every day thinking about, these kids have to get their tutoring. Not every school can have that. There's about 70,000 AmeriCorps members nationwide, and there's 150,000 schools nationwide, so that doesn't quite work.

Then it's about thinking about partners like the Ed Fund. Jenny [Siegel] and her team go from school to school, making sure that there's some designee in the building that is interfacing with us, making the schedule, and making sure that students are showing up.

You know, sometimes you make a schedule at the school, and the schools don't follow, or our tutors show up and the kids aren't there. Having the Ed Fund being the grassroots organization embedded here in San Francisco to show up and say, Hey guys, we are going to lose tutors if the kids aren't showing up is super, super helpful. And I think they can kind of be this extension of the school in a lot of ways that steps in and helps provide that extra support.

SL: You just need someone in there, and to realize that the people at the district and in the schools are really, really busy. Trying to kind of recognize that in the interactions, and make it easy to do this is surprisingly important.

Audience Question 4: How much do you invest in building the capacity of the tutor?
ML: It is really important and we want tutors to feel a sense of a personal journey of growth. Two thirds of our tutors have been teachers at some point in their career, or they're currently teachers and they're tutoring after school for supplemental income. Others are former teachers who don't want to be teaching full-time, but want to still keep some foot in the classroom. And, and, despite what you may read in the newspaper, most teachers want to be good teachers.

And they want to improve themselves and continue to be better teachers. We offer weekly trainings that are opt in subject based, working with English language learners, working with students with disabilities, to create a learning community where they can be a part of that. We also invest heavily in community building among tutors.

It turns out that online tutoring is kind of a lonely job. You're in your house on the computer. We create Facebook groups and engage with tutors at the social level to try to help them feel

like they're connected to each other and they're a community of practice that's talking about what works for them.

It is an important part of the work and it's about being thoughtful and intentional. Not everybody is automatically going to be a great tutor as we've talked about. We talk about curriculum and structure around tutoring matters, but also investing in the tutor and making sure they get good training up front and that they're part of ongoing professional development.

SL: Three quick things. One is yes, the good programs have professional development for tutors. Often like once a week they do some kind of thing. They have oversight. It's going to be really important because you're getting this variety of people coming in to know what's going on in the sessions. There's another level where you've got their coaches or their people who notice what's going on and switch the tutor out if they're not doing a good job or it's not a good match.

[At Stanford] we are working with Arizona State University and a bunch of tutoring programs around the country to create nano courses for tutors that is open source, so that community groups will be able to do this. Right now, we have the elementary math one done.

But it's a lot about building relationships, and then there's a bunch of focusing on the math that you're doing. So, within the year, there will be lots of other programs there. There will be a certification associated with it. Let's say you all wanted to start a tutoring program. There would be a way for you to have your tutors gain some of this, and then you could kind of oversee, they should do this and not this, and so that's why there are these little nano courses, and you can bundle them in different ways. But our hope is that that helps a wide variety of tutoring programs to do a better job with their tutors.

Audience Question 5: You mentioned a problem with opt-in communities; a two-percent rate. What's the alternative? Can you create mandates?

SL: The alternative is that schools do this and it is part of the instructional program in schools. That's what most of these high impact tutoring programs are; they happen during the school day, or they happen right after school, but the school knows who got it right after school, because that won't be a high proportion and they do the other kids during the school day.

It's really the only way to reach a large group of people. It's not that the opt in stuff doesn't have benefits for the people who opt in, but you're never really going to get to the students who don't like it if you do it after school.

ML: Yeah, we call that model the spray and pray. Where it's sort of like you, you put it out there to everybody, you hope that they'll use it.

Oftentimes, Susanna referenced, the utilization's low. The families who use it tend to be the ones who are already pretty dialed into school. The kids who will sign up for some of these on demand text-based programs. Anyone who's texting an AI at 2am about their homework is probably already a pretty engaged student.

It’s about equity of access and thinking about how people get reached outside of that. And also, there's been a movement among some states to essentially sort of voucherize tutoring, where it's like you can get some kind of a scholarship, they call it in Florida, where you can kind of take a new private market and get a token that you can use to pay for tutoring at Kuman or Catholic for-profit centers.

Those also have some serious equity issues in terms of who takes advantage of that. It's just about being thoughtful about how we reach them, trying to embed it in school as much as possible and trying to make sure that a parent's ability to receive a text message or email and respond to it doesn't get in the way of a student getting tutoring.

Audience Question 6: How can we optimize it for the students?

SL: I think a lot of programs do it for matching tutors to students. They do surveys essentially of students beforehand and of tutors beforehand and try to get it to be so that they would share interests. And I think you can find some interests that they share and that's a good starting point.

ML: We start with Lesson Zero at BookNook, which is basically get to know you. The relationship matters. We start with asking you about your family, your brothers and sisters, etc.

That's an important part of how we make this a human relationship first and foremost. And as Susanna referenced, like there's a lot of research on tutoring. There are many different taxonomies. Unfortunately, nobody's yet done where it feels like the decoder ring that says like, this is the right tutoring for this kid in this context.

That's where the skill of teachers and program managers comes into place too. The more we can put power in the hands of the buildings, who know the kids best, to say this is what's going to make the biggest difference for this kid. I think that's going to give us the best results.

And maybe someday AI can do that too. But right now, it's really about listening to the adults that know that child, and know what they respond to in trying to use that as our guide.

SL: We've been talking a lot about tutoring programs too as being these outside programs that the school contracts with. It's also possible and many districts prefer to kind of create their own programs, and there they can be with the people who are already in the building, or who they hire, and they can match them. There are definite benefits, either to the close collaboration between the teacher and the tutor, or some of these district-run programs.

Audience Question 7: What is the racial makeup of the tutors?

ML: We are really proud that we emphasize diversity in recruitment of our tutoring force and so 40 percent of the people of color, which is about three times what the national average is in terms of the teaching workforce.

About a quarter speak a language other than English and bring that forward to match those languages to languages of students, and it gets complicated within the scheduling algorithm, but we really try to make sure that students can relate to the tutors they work with.

It isn't just about the diversity of the tutors, it's about the curricular content. And so selecting authentic texts in our library, meaning like the real children's books, and curating that library to make sure that students can see themselves in the books, reflecting the diversity of the different communities that we serve.

We provide a Spanish language program that overlays across our English curriculum so that students can use their home language to navigate and understand what they're learning. You can kind of build some elements of that into the program as well, so that even if you happen to be a Latinx student who's paired with a white tutor who doesn't speak Spanish, there's some tools inside the program that still help you to have a positive experience.

SL: Two quick things on that one. One is that you can find sources of tutors that are more representative of the students. One of the nice things about college students is many of them actually went to school in the districts where they then tutor and so they become kind of role models to this as well. When we can leverage that, it's really nice. There are a number of historically Black universities around the country that are embracing tutoring so that's another way to do it. Paraprofessionals already reflect the community more than teachers do, and I think that's something to remember is that you want them to really be able to establish these close relationships with the students.

This kind of knowledge of the experiences of the students is really important. And we're doing some research where we're randomly assigning whether you or not you get someone for your community or your race or ethnicity and trying to see if that makes a difference. I don't have the results yet, but we will have that at some point.

Conclusion

AW: Thank you both. This has been amazing. I know that we're all here because we're, we're deeply committed to this work and making sure that we're serving our students the best we can. Our Accelerate Learning SF campaign has been really meaningful and we're so thankful for everybody here in the room, including you all in supporting the effort that we've put forth. We're still working on Accelerate Learning SF and there's still quite a lot to do, so we're going to continue to invite you to be partners and part of the community, and all of us working to make

sure that all of our beautiful students in San Francisco Unified are getting the best that we can offer. Thank you so much, Susanna and Michael, and thank you everybody,

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