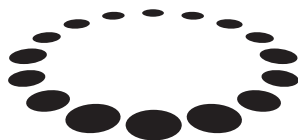


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**Strategies to Learn How to Be
an Excellent Teacher /
Strategies to Teach
Like a Champion**

Doug Lemov



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DEBATES ON EDUCATION | 37

An initiative of

In collaboration with



Transcript of Doug Lemov's keynote speech at MACBA Auditorium. Barcelona, April 30, 2015. Debates on Education.

All contents of Debates on Education may be found on line at www.debats.cat/en (guests, contents, conferences audio, video and publications).

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First Edition: July 2015

Author: Doug Lemov
Publishing Coordinator: Valtencir Mendes
Publishing Technical Coordinator: Anna Sadurní
Publishing revision: Samuel Blázquez
Graphic Design: Amador Garrell
Layout: Àtona Víctor Igual, SL
ISBN: 978-84-944046-5-8

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Introduction

I'm going to start tonight by reading to you a short section from *Teach like a Champion 2.0*, which is the revised version of my book. I don't usually read, in fact I've never read in a presentation and I'm a little bit embarrassed to, for two reasons. First, because it always struck me as a little bit pretentious to read to a group of people, I mean, like, this ain't Shakespeare, let's be honest, but also when I was a teacher the administrator would often, my administrator would send an email out with, you know, 6 bullet points to all the teachers and then he would call us to a meeting in which he would say I sent you an email and it said pah pah pah pah pah and he'd go through all the six points that he'd sent, he'd put in his email and then I always founding myself thinking why do I have to be here in a meeting if you sent me an email in fact like most teachers I was smart enough to figure out this means I don't really have to read your emails and I really want to encourage you to read the book and so with great caution I'm going to read a little bit of it to you for a reason that I hope will become clear and which this very strange first slide intimates. So this is the introduction, the art of teaching and its tools.

“Great teaching is an art. In the other arts, painting sculpture, the writing of novels, great masters leverage a proficiency with basic tools to transform the rawest materials stone, paper, ink into the most valued assets in society. This alchemy is all the more astounding because the tools often appear unremarkable to others. Who would look at a chisel, a mallet, and a file and imagine them producing Michelangelo's David. Great art relies on the mastery and application of foundational skills learned through diligent study, craftsmanship if you will. You learn to strike a chisel with

a mallet and refine the skill with time learning at what angle to strike the chisel and how tightly to hold it. Some day, perhaps years later, observers may assess the philosophy expressed by what you create. But far more important than any theory is your proficiency with the lowly chisel.”

True, not everyone who learns to drive a chisel will create a David but neither can anyone who fails to master the tool do much more than make marks on rocks. Every artist, teachers included, is an artisan, whose task is to study a set of tools and unlock the secrets of their use. A chisel appears mundane, but the more you understand it the more it guides you to see what's possible, rounding a contour with unexpected smoothness the chisel causes you to realise suddenly that you could bring added subtlety to a facial expression, more tension to the muscles of the figure you're sculpting and this changes your vision for it. Mastery of tools does not just allow creation, it informs it. The process is often far from glamorous, an artist's life is a tradesman's life really characterised by callouses and stone dust requiring diligence and humility but its rewards are immense. It's a worthy life's work.

Traveling abroad during my junior year in college, I saw Picasso's school notebooks on display at the Picasso Museum in Barcelona. Now you know why I'm reading this. What I remember best are the sketches filling the margins of his pages. These weren't sketchbooks, mind you. These were notebooks like those every student keeps of notes from lectures. The tiny sketches memorialized a teacher's face or Picasso's own hand grasping a pencil, with perfect perspective, line, and shading. I had always thought Picasso's work was about abstraction, about a way of thinking that rendered the ability to draw accurately and realistically irrelevant. His sketches told another story, bearing witness to his mastery of fundamentals and constant drive to refine his skills. Even in the stray moments of his schooling, he was honing the building blocks of his technique. He was an artisan first and then an artist, as the fact that he filled, by one account, 178 sketchbooks in his life further attests.

So as you can see I'm especially glad to be speaking in Barcelona tonight because it all started here 27 years ago as a university student wandering the streets of Barcelona. It's very interesting that I went back to the Picasso museum this morning to see if I could find those sketches that I remembered and see if they really looked like I remembered them and I couldn't find them. I don't know whether they've changed the exhibit or I remembered them in a distorted way. There were many, many sketches and I think the principle still holds, he was sketching constantly, but I went back to try and find them today. So thank you to Barcelona for starting this journey for me.

A story...

I want to start tonight by telling you a story and this is a story about a hero, it takes place in Los Angeles and so we know that Los Angeles is the place that manufactures stories about heroes. But this is the hero of our story and her name is Zenaida Tan and no one in the room has ever heard of Zenaida Tan and when I talk about her in the United States no one has ever heard of her either.

And I just want to... and the reason she's interesting is because she was the feature in a story in the Los Angeles Times about 4 or 5 years ago. And she was featured because the Los Angeles Times found out that Los Angeles Unified School District, the government entity that runs all the schools in the city of Los Angeles, 10 million people, something like that, had had data for ten years or so about which teachers got what results with their students and some teachers it turned out got 2 to 3 times the amount of growth every year in math and reading than the average student in the district and no one had ever done anything with this data and no one even knew who they were but the Times got their hands on this data and they went out to observe and interview these teachers and one of these teachers, one of these teachers was Zenaida Tan who for 10 or 20 years had been achieving student achievement 2 to 3 times the average teacher in the district.

So here's the LA Times story, here's what they wrote about her and I just want to tell you before I read a little segment of it to you it's a scary story, so prepare yourselves.

Do you want to dim the lights or something? Just kidding.

LA Unified School District has hundreds of teachers who, this is, I'm reading from the article in the New York Times. LA Unified School District has hundreds of teachers who preside over remarkable successes, year

after year, often against incredible odds but most are like Zenaida Tan, working in obscurity. No one asks them their secrets. Most of the time, no one even says, “Good job.” Often even their own colleagues and Principals don’t know who they are.

Tan brims with effective ways to reach limited-English students, handle discipline problems and keep the kids engaged. “I do a lot of singing, games,” she said. “It doesn’t look like a lesson.”

But no one asks her for her advice. She says her fellow teachers at Morningside elementary school consider her strict, even mean. She tends to keep to herself.

“Nobody tells me that I’m a strong teacher,” she says.

That’s OK by her, she adds. Year after year, she watches her students make enormous progress and feels a quiet sense of satisfaction.

By LAUSD’s measure, Tan simply “meets standard performance,” that’s her evaluation, as virtually all district teachers do — 3% of teachers in LA Unified District did not get this score in the year in question — evaluators only other option is “below standard performance.” On a recent evaluation, her Principal checked off all the appropriate boxes, Tan said then noted that she had been late to pick up her students from recess three times.

“I threw it away because I got upset,” Tan said. “Why don’t you focus on my teaching? Why don’t you focus on where my students are?”

So you might be thinking why is that such a scary story, but I actually think this is terrifying to think we have incredible assets in our classrooms incredible skill in our classrooms. People who can coax 2 to 3 times the amount of learning out of a student as the average teacher and yet the systems that we use to evaluate them develop them professionally all but drive them out of the system. Number one. They fail to make her better, they fail to even make her feel valued. The most amazing thing about this is that she stayed after getting an evaluation like this. It’s a happy accident that she’s still doing the work that she does.

But in fact it’s even scarier than that because what this represents to me is a system failure because no one has learned anything from Zenaida Tan’s incredible success and that means that all the teachers in the building, all the teachers in the building who could potentially get better are

not getting better and the cost of this is a huge failure rate amongst teachers in the inner city in the United States, in fact the data says that 50% of the teachers who enter teaching in the toughest schools in the US, in our inner cities, where they teach high poverty kids, leave the profession within 3 years. Fifty per cent.

They know when they start the job they're not going to be paid that well. They know it's going to be difficult. They know its going to be challenging and yet half of them give up and leave because they face difficult challenges and difficult problems in the classroom and the solution to some of those problems is right down the hallway in Zanaida Tan's classroom and no one ever walks down the hallway to walk into her classroom and say, "Wow, what can we learn from her? How can we share this among our teachers and ensure that more teachers are more successful?"

This idea of studying bright spots which is the notion that success is more important than failure if you want to build organizational change, we stole from a book called Switch by Chip and Dan Heath and if you like to read, ah I don't think it's been translated but if you'd like to read in English it's an incredibly tremendous book.

It describes the history of organizational change and social change in different sectors of the economy and one of the, so they make a bunch of really brilliant observations in this book and one of them is that we assume that the size of a problem and the size of the solution have to be the same. If you have a big problem you have to have a big, complex solution to fix it, but oftentimes there are lots of examples of very simple solutions making a lot of headway in solving complex problems and so what they say the way to learn those things, the way to learn what solutions have high leverage is to study success. We spend our time wringing our hands about the, wringing our hands about the problems, but it's the solutions that are more powerful and so you know even here in Barcelona there are hundreds of Zanaida Tans out there in your school system. Where are they? Who are they? Do you know? Have we studied them? Have we tried to learn from them? They're the incredible power of bright spots, right, if we found out what made them successful we could share that information and that would be, you could argue, the fastest way to get better.

Achievement gaps

This makes me think about achievement gaps. We talk about in the US about the achievement gap. Do you have that expression here? For us it's the gap between students of poverty and students of privilege. It's a massive gap in the US and it means that we have a generation of students who are consigned to perpetual poverty because they aren't able to participate in the economy. But really that's only one of the achievement gaps that we face, there are many achievement gaps. There's the achievement gap between rich and poor, but there's the achievement gap between American schools and the best school systems in the world and even if we close that gap there would be the gap between our kids and what they deserve and the schools that we give them, right, there's no good that would be good enough when it's our children and education and so there's always a gap that we're trying to close and the interesting thing about gaps is that there is no achievement gap that some teacher, somewhere, has not closed.

There is some teacher in whose classroom the highest poverty kids with the most difficult homes still achieve great things. There's some teacher in your country and our country whose achievement results dramatically outstrip, name the country that has incredible PISA scores. There is some teacher out there who is as close as you can be at least to the education our kids all deserve, we just don't know who she is. We need to find her and study her and share out what she does and this implies to me that one of the most fascinating things about teaching which is that teachers get told all the time, experts tell them this is what your classroom needs to be but, actually the solutions to many of teaching's challenges and education's challenges actually come or could come from the teachers themselves. They're a vast untapped pool of resources and knowledge about the most important work in our society.

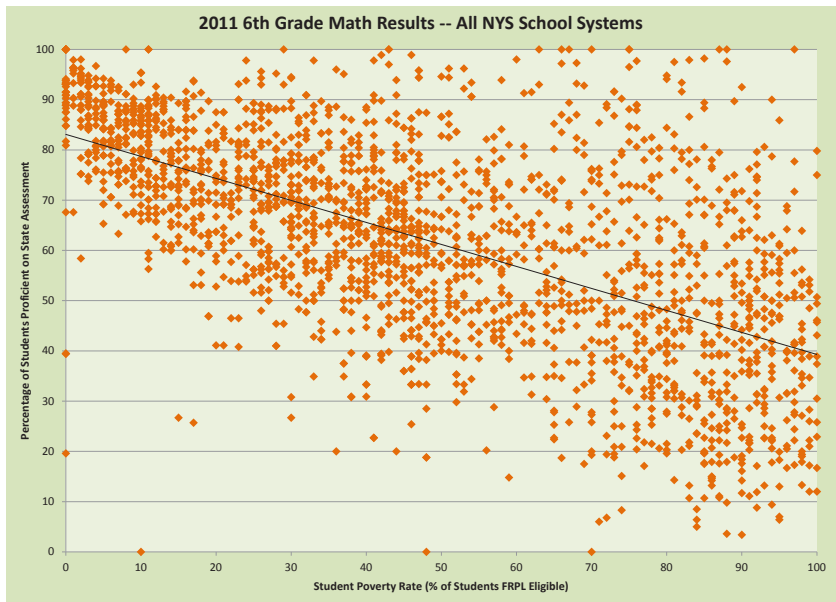
But basically we don't know the placebo from the cure. Imagine if we did medicine this way if we didn't really have any sense for, if we didn't do elaborate medical testing on our medicines and we just gave them to people and hoped they worked and just chose the pill that was prettiest on someone we knew who was sick, it wouldn't work very well. So does this matter? Yes, this matters.

This is data by the American economist Eric Hanushek and in it he tracks the GDP growth rates of western hemisphere nations for 40 years from 1960 to 2000 and correlates it to educational outcomes on the PISA and similar tests.

So interestingly, when you correlate economic growth GDP annually to the amount of time kids spend in school in each nation, that's on the right, you get almost no correlation. How much time kids spend in school has almost no effect on economic growth. But when you correlate adjusted test scores, educational outcomes, the results of teaching in the classroom you explain 80% of GDP growth over 40 years. In other words in addition to being responsible for the hopes and dreams and aspirations of individual children every year, our teachers are also responsible for driving the economy. So if there are teachers in the room, thank you, for that and everything else you do.

So this matters deeply. So we set out to study teachers, that's kind of the idea behind Teach Like a Champion and I'm going to tell you a little bit more about what that looked like and what we found.

The Teach Like a Champion experience



So first this is the picture of New York State, everybody recognize it? You've seen New York, you're expecting to see the towers of Manhattan maybe, when I tell you this is New York State, but this is to me much more important picture of New York State. This is every school system in New York State, graphed according to 2 data points. On the X-axis on the bottom is the percentage of kids in each school system or each school in this case, that lives in poverty, so on the right every single kid in the school is eligible for public assistance and on the left no kids are.

The Y-axis tells you how they did in student achievement, in this case on the 2011 6th grade math result, so 11 and 12 year olds. So 100% got it

right at the top, nobody in the school got, passed the test at the bottom. And so this is kind of where I started where I started from this. I was recovering at the time from an MBA. Thank you, I feel much better.

And I was used to using datasets to think about problems and so I ran this dataset which shows there's a really strong correlation between poverty and educational outcomes — zip code as destiny. I don't know if it's the same in Catalonia, but in the US you can almost graph the degree to which if you have the lack of foresight to be born in a postal code that's characterized by poverty, your educational outcomes are not very promising. In fact we can quantify the degree to which every additional percentage of impoverished students in your school drives down the likely outcomes. And so I looked at this data the first time and I spent a lot of time wringing my hands thinking about the problem. This is not just. This is not fair. Democracy and prosperity are not sustainable with a model like this.

But it's an interesting question to think. I want to go back to Chip and Dan Heath's observation that solutions are more important than problems because there's a strong correlation does not mean, does not mean it's a cause.

Correlation and cause are different and in fact there are teachers every day, like Zenaida Tan, who achieve incredible results with high poverty kids, despite all of the difficulties of those kids and we have no idea who they are.

So I caught data like this and I went out to find as many of those classrooms and those schools as I possibly could and I snuck into them when they would let me come visit them and as soon as I went there I thought my god this is incredible I have to document this and so I brought a video camera with me and the very first videos that I shot they look like terrible 1980s era wedding footage you know like the camera's like this, but what you see in those, in those... in that footage is incredible.

In fact I still remember the moment when I saw a teacher do something that I had never seen a teacher do before in a classroom and two weeks later I was taping in a school 300 miles away and I saw a teacher do the same thing and I thought, you know, there are things that they do that are different and so I set out to try and describe what those things are, what the highest performing teachers do that makes them different

from the merely good. And those are the things I've tried to describe in *Teach like a Champion*.

One of the things that strikes me that, one of the things they have solutions to, it's a combination of what I would say are the sublime and the mundane. There is incredible genius in the classroom of great teachers and there are very simple things that they do very well that are often beneath the threshold of narration, we don't even think that we're talking about them. And this reminds me that there are two types of problems, challenges that you face in a classroom as a teacher, there are exotic problems and endemic problems.

I have a picture of a pigeon up here because this is an example of an exotic problem. A friend of mine who teaches in Houston started the school year this year and there was a nest of pigeons in the corner of his classroom and every time he tried to discuss the novel that they were talking about the pigeons would flap and squawk and one of them would try and fly out the window and the window wasn't open and so the pigeon would slam against the window and the kids would all turn around and he got very little done for quite a while.

That is what I would call an exotic problem. You should not enter the classroom having left your teacher training prepared to deal with that specific problem. You're not, you know, it's non-repeating, but the classroom is full of the opposite endemic problems, entirely predictable problems.

You know when you enter the classroom you're going to have some kids who want to check out and sit in the corner and not be bothered and they want to just be left alone. And we know that we can't leave them alone for a month, for a week or a month or a year because the price is too high and so we have to have a solution for that. And we know that at some point your classroom you're going to ask a kid to do something and that kid is going to talk back.

I talked to a teacher the other day who said her first day of teaching she walked into her classroom and she said 'okay boys and girls sit down please' and a boy looked at her and said "you sit down".

So we should, I don't know, we have real cultural behavioural issues in many schools in the US, I don't know if it's the same here, but we have to be ready for that, right, if you get nervous and you think, "oh my god

I never thought this would happen”, you don’t have a chance and so one of the things about great teachers is that they have developed and problem-solved solutions to these predictable challenges and problems in the classroom but we haven’t spread them out so thousands and thousands and thousands of teachers walk into the classroom every year totally unprepared for problems that are predictable and if they are going to give their lives and their hearts and their souls to the most important work in society we really ought to be able to help them address those problems so that they can be thinking about math and literature and science and art and history and not, how am I going to get this kid to talk respectfully to me? Or how I am going to motivate this kid to learn? Or, how can I phrase the question so that it’s as rigorous as possible for every kid in my classroom?

So here’s some examples, you’re probably wondering so tell me more about some of the things that you think you saw in high performing teacher’s classrooms and so I thought I’d give you a couple of examples of things that stood out and I’ve tried to choose a couple of just very different things because there’s a really big wide portfolio of types of things. I talked about the sublime and the mundane. Maybe I’ll talk about the mundane first.

One observation is that efficiency matters. You only get so many minutes with your kids and if you squander them you can’t get them back and so great teachers have a light obsession often with efficiency. I should just note, when I talk about great teachers, all teachers are different, some teachers are great using none of these tools and god bless them for it, right, but in general the theme that I see is a moderate to light obsession with efficiency.

Here’s the inside of one of those teacher’s classrooms. This is a guy named Doug McCurry, he teaches in New Haven Connecticut, his kids are 96% eligible for public assistance. They outperform one of the richest school districts in Connecticut, which is about 20 miles away and almost all the kids go to college. This is the very first day of school in Doug’s classroom.

I’m going to... I know there’s translation and many of you also speak English, it’s hard to hear on the video because he’s talking fast and the

sound is muddy so I'm just going to kinda semi-translate as he goes. So here's Doug, the first day of school with his kids.

So he says the first thing I want to do, the first thing I want to work on is how to pass out papers. Now instantly when I showed this to assembled groups of teachers in the US someone raises their hands and says, "How dare he? How dare he train kids to be robots and practice passing out papers? He should be teaching them the causes of the civil war."

So he's says he's going to pass papers down the rows they're going to come across, the only person who has to get out of his seat is James because James has to get up and cross the gap between him and Bruce.

So he's having them walk through James will give it to Bruce, Bruce will give it to the next boy and they'll pass it down the rows. Good job, let's try that again he says, he says, you did it in 12 seconds see if you can, we pass them out in 12 seconds back in in 10. 11 seconds back out in 10.

A lot of people say if you do this kind of thing with kids like they'll rebel, like they hate this kind of structure, if you did this on the first day of teaching they would hate you forever, just look at this kid in the middle here, do you have the expression 'on the edge of your seat' in Catalan or Spanish? In America 'on the edge of your seat' means you are very, very excited. He is literally on the edge of his seat. He can't stand the excitement any longer, he's having a great time. Now he says they passed it out in 10, back in in 8. Pretty good he says.

So he's taken this notion of passing out papers, by the way, sometimes when I introduce this video I ask teachers how long does it take you to pass out or collect a set of papers in your classroom and the average is usually a minute or two. Right, that's the average. And one teacher once said, zero, and I said, really, zero. How? And she said well most teachers stop handing out papers because it's so difficult and it becomes so distracting and disruptive that they stopped it. I've stopped giving my kids materials. Oh my god!

So let's assume that Doug spends 20 minutes practicing this with his kids and maybe he spends 20 minutes practicing again, right, this crazy mundane notion of passing out papers but they can do it in a minute faster than they can in another classroom. Let's just run the numbers on that for a second. Let's say he can save a minute every time he passes

out or collects materials and over the course of a student's life in a school day they pass out, they have materials passed out and collected 10 times, which is probably a conservative estimate, hopefully they're getting a lot more materials than that.

In the US, so that's 10 minutes per day saved. In the US we have 190 school days in a typical school, so that's 1900 minutes of school per year and 60 minutes per hour that's 32 hours per year of additional instructional time that Doug has just manufactured in this clip in other words that's a seven hour school day, that's 4.5 days of additional instructional time. And so the answer to the question, how dare he do this, why isn't he teaching the causes of the civil war, the answer is because now he will have a week to teach the causes of the civil war. He's performed a minor miracle, but fine me the school of education that would stoop in the US to teach its teachers how to teach their kids to pass out papers.

So sometimes the things that make teachers highly effective in the classroom are incredibly mundane but great teachers are very, very intentional to the craftsmanship of these little things in their classrooms. That does not mean that's all great teaching is - it's obviously asking great questions and pushing kids to be rigorous and making kids do most of the cognitive work, but this foundation of systems is critical.

The second thing I'd like to point out is a larger thing that characterizes great teachers. This phrase, 'I taught it is not they learned it' comes from one of the greatest basketball coaches of all things in the US, John Wooden. He's the most successful basketball coach in the history of American universities. He's a legend. He got voted the greatest coach in any sport in the 20th century by ESPN.

And the interesting thing about John Wooden is that he started out as an English teacher. He was a literature teacher and even when he had, you know, Kareem Abdul-Jabbar played for him, he read his team's poetry during practice sessions. I have no idea how they responded to it, but apparently he did it. And he says that the reason he was a great coach was because he thought about coaching as teaching and he thought about his practice, he thought about the practice sessions more than the games and he thought about his practice session as being like English lessons.

And he said the mark of a great coach is knowing the difference between I taught it and they learned it. In other words you can stand up in front of your classroom for an hour and explain to the kids how to add fractions with unlike denominators but that is very different from whether they learned it. And so great teachers engineer ways to constantly understand what is happening in the minds of their students. Are they getting, are they picking up what I'm putting down? Are they understanding this? Are they learning it? Because there is not a teacher in the world who has not stood up in the front of a classroom for an hour and given a test later and been, like, 'oh my god'. They got nothing. Of course that happens, it's the most natural thing to have happen in work as difficult as teaching. So here's, I'm going to show you two videos very quickly of teachers doing very subtle things that allow them to check for understanding.

This video is going to be really, really fast so watch carefully. This Shadell Purefoy, she teaches at a school in Newark, New Jersey, which is one of the toughest school districts in the country, one to two per cent of kids in this school district graduate and go on to university and at her school which is now K to 12, 100% graduated and went on to university. So here she is with her kindergartners. Watch in particular her interaction with this little girl, this girl's named Kaylah.

So she says, okay students, okay scholars, today we're going to read a book called Clever Fox. The title of the book is Clever Fox. So she asks Kaylah if she knows what clever means and Kaylah says no.

It's really, there's something, kindergartners are so cute, aren't they? It's my biggest takeaway from this video, but my second biggest takeaway is something that Shadell does that is really subtle here. I want to play it again, just watch Kaylah and watch her hand. Is it normal in Catalonia that kids raise their hands when they want to participate? Right, that's pretty normal. So watch her.

Kaylah is the only student in the room who doesn't have her hand up and Shadell calls on her. So much time as teachers we think about calling on kids as managing participation, who gets to play. But it actually has a much more important function. It's a source of data. This is one of the ways Shadell understands what her students know and so she's clearly thinking about calling on kids as a form of data, how do I know what my

student's know and who's the most important kid in the classroom? Who's the kid who's most likely not to understand the answer to this question? It's the one kid in the room with her hand not up. It's Kaylah.

And so what she's using here is one of the techniques in the book which is called cold calling which is about building a culture of calling on the kids regardless of whether they have their hands in the air. Because if all you ever do is call on the kids with their hands in the air you will get a skewed data set, you will always think you are more successful than you are because the kids who raise their hands may not know it for sure but they're certainly more likely than know it than Kaylah.

It's also fascinating because Kaylah starts to put her hand up like uh, no, no I can't do it. So it's this moment of, like, fear and risk for Kaylah and so actually it's a beautiful moment when Shadell says actually I'd like to hear what you think there and Kaylah doesn't get it right, but Shadell by the way doesn't do anything like "Kaylah, we've been working on this all day", "We talked about the meaning of clever yesterday", which sometimes we do which has the unintended consequence of communicating to Kaylah "you are an idiot", right, and then she will never raise her hand again. Shadell doesn't say anything when Kaylah gets it wrong, she says okay, she goes to Azaiah, Azaiah provides the answer she comes back to Kaylah, Kaylah gets it right and says "Clever means smart". I don't know if you can tell this in the translation but Kaylah is really happy about getting it right. And so the other thing in addition to using this notion of cold call to check for understanding to be able to I determine the teacher who I'll call on sometimes because I want to gather data she's also built this thing called a culture of error which makes it safe to be wrong. It doesn't mean that I don't tell kids when they're wrong, it means I have to... I manage my own affect when kids get it wrong because the only way to be right in the long run is to be wrong in the short run. So if kids are afraid to be wrong and they feel chastened when they're wrong they won't take the risk of trying and they will try and hide their errors from you and if they hide their errors from you it's 10 times more difficult to discover them than if they willingly share their mistakes.

And so there are two key elements of this notion of checking for understanding, determining I taught it from they learned it, and that's one,

her decision to cold call, and, two, the culture that she's built in her classroom.

Really quickly if I have time, can I, I think I have time, do I have time to show one more, I'm going to show one more video because I can't stop showing video of teachers once I start.

This is Katy Bellucci. I think these are older kids and it demonstrates some of the same principles of check for understanding here both the cultural aspects and the technical aspects. She is teaching it's not grade 7 it's actually 5th grade math, so this is 11 year olds.

So they've solved a problem on their own at their desks and she says pencils down in 3, 2, 1. She's going to call on them to find out what their answers were. Watch how she does it.

Do you have the game, rock paper scissors in Spain? So this is like rock, it's a kids game, rock beats scissors, beats paper, so this is her version of it and they're holding up their finger to correspond their answer choices, it's a multiple choice question. So now she can scan the room and see what everyone's answer is and understand the data, right, in fact she's going to tell you in a second what the data is, what answers kids gave.

I don't know if you can hear it in her tone of voice she says B, C and D. She's excited about the fact that there's disagreement. Talk about building a culture of error, right. Not some of us didn't get this right. Not some of us haven't been paying attention, but oh boy we all didn't get the same answer, let's study it and find out why and by the way she says 2s 3s and 4s, what was the right answer? We don't even know at this point and neither do the kids so now she's going to do what great teachers do, now she's recognized that she's taught it but they didn't all learn it so she's going to go back and re-explain it and re-teach it.

One of the other techniques in the book is wait time which is how much time you leave after your question before you take the answer she gave about 4 seconds of wait time there, that's 8 times as long as average teacher lasts. The average teacher waits half a second before taking an answer and you can see she had one kid had their hand up, one kid new automatically, that's the kid we usually call on what that means that everyone else in the room stops thinking about it, but by not calling on

him now everyone in the room is thinking about the question and the kids learn that way if you always call on the fast kid I'm not going to try anymore I'm never going to be José so like here I am, I'm off the hook for math

Can you see the problem? It's one half times X plus $2 = 20$ and now she's walking them through dividing, sorry, dividing by one half or multiplying by 2 to get rid of the X over 2. I'm sorry the one half at the front end of the first expression.

The kids who chose answer choice B divided 20 by 2 not by one half so that's why they got it wrong, they got 10, the answer of course, the answer is 40.

Nequan who she's calling on here the kid who got it wrong the first time. Look at how happy she is describing their error here. Hold them up high, be proud. You changed your mind. You figured it out. Figuring it out is more important, more positive in her class than knowing it in the first place.

Yes, it's important that we have to know it in the long run. But here we see a teacher one, gathering data instantly on her students, two, responding to the data to re-teach instantly in response to that and then three, making it safe and positive to make short term mistakes on the path to long term success.

So those are some examples of some of the things that we found inside of great teacher's classrooms and those are videos that you will find in Teach Like a Champion 2.0 if you choose to read it which I hope you will. You certainly won't agree with everything that I think that I found in great teacher's classrooms but hopefully you will find inspiration and if nothing else fascination in the careful study in the work that teachers do all day, every day. Couple more clips here which I won't show unless you're dying to see them during the question period because I just want to make a couple more quick points about what happens when you study teachers.

This is my day job, this is my job by the way. I spend all my time watching videos or watching lessons by teachers. It's so, it never stops being fascinating and intellectually stimulating. One thing you do is, I don't know if you're familiar with the phrase cultural capital, but cultural capital is any non-financial social asset that promotes an individual's status beyond their economic means. When you have cultural capital no

matter what anyone pays you, you are important. It's one of the reasons why people go to university, right, yes they know they'll get better paid jobs but there's also a status to have studied at university.

And so one of the things that I think happens when we study teachers and honour them and when we ask them to participate in building the knowledge base of the profession is we increase their cultural capital and make the profession's status higher. Instead of saying you dumb teachers let us tell you what to do in the classroom, we say actually why don't you help us, why don't we collect the knowledge of the most capable among us and let that determine how we do our work and let's build it internally? You're not only executing but you're building the knowledge of the field. You are an intellectual when you are a teacher.

That to me is, you know, one of the things we know about the most effective school systems in the world is that teaching is a high status profession and this is just a really easy low cost fix, yes we should pay teachers as much as we can, but let's also make teachers understand that we respect them for their intellect.

One of the other things that happen by the way is that you develop shared vocabulary even if you disagree with everything that I wrote in the book, if you read the book you would have about 150 terms to talk about the thousands of decisions that teachers make in their classrooms every day and then you and your teachers or you and your fellow teachers who go off and talk about it and say yes that was a moment when actually I don't think we checked for understanding as effectively as we could and perhaps we needed to gather data there and I feel like the culture of error in the classroom could be a little bit stronger and then you can have peer to peer conversations and constantly develop new insights that are specific to your kids and your school and that's really what happened when *Teach Like a Champion 1* became obsolete to me very, very quickly after I wrote it because teachers talked about the things and they came up with much better applications than what I'd described in the book and so a year or two after writing it I go to teachers classrooms and they'd be doing kind of like the things I'd described in the book but so much better and I just thought to myself, holy cow, I have to start writing that down. So shared vocabulary empowers knowledge sharing.

Finally it starts with data. Historically, breakthroughs and innovation have preceded by breakthroughs in measurement. We understand how the structure of a cell works because we're able to weigh and measure the elements of the nucleus and therefore we can make insights that lead to, you know, all the things nuclear physicists do that change our lives, but I don't really understand them, but measurement proceeds innovation. And so when we can start, measurement will always be imperfect and we want to use it carefully, but when we start to be comfortable with the notion of measuring what we do in the classroom, we can begin to have insights and I think we we're on the brink of a kind of golden age of knowledge generated from teachers by setting out to and getting better and better over time at measuring their work.

When you start to measure, people will resist data at first they will say I don't want to be measured, this is an imperfect measurement, do not measure me.

If you use the data well that resistance won't last. I did this with a school, the kids, the school that my kids go to, the Principal came to me and said could we build some assessments together that we could use to figure out what we're doing in the classrooms and, the teachers, and so the Principal said this and we built some assessments together and the teachers were like "I'm not going to take any of these tests". But they did it anyway and after 3 months the teachers said when we are we giving the next test because the Principal was really smart and she didn't evaluate anyone based on the test, she used it to get them smarter and they looked at the questions together and asked why did the kids get these questions wrong. And then they felt like, wow this test gives me insight it, makes me smarter at my job, I like this. I want to do this. And so she earned their buy in.

Data's a management tool. In other words it's not an algorithm. Just how one teacher does one test doesn't tell you whether they're a good teacher but data in the aggregate can give you insights.

And finally accountability and autonomy have to live together. If we're going to measure what people do in the classroom they have to have the flexibility to do what they want to to try and achieve those results. If you get accountability but no autonomy, someone measures you but you

don't get to decide what you get to do all day a, that's not as fun a job, we want teachers to love teaching and b, it feels miserable, right. So we have to make sure that we give teachers real freedom and real flexibility if we're going to measure.

But when you measure one of the things that will start to happen we'll start, is that people will get put in buckets, this is an expression we use in the US for grouping teachers by as long as they're in effect, by saying there's Zenaïda Tans in the world and it's the hardest job in the economy so some people are going to be better at it than others hopefully we'll develop, everyone will be better over time but there are some Zenaïda Tans out there.

And when you start worrying about measurement people say what's going to happen to the low performing teachers. How will we deal with them? Will we kick them out of the profession? Will they be shamed? And those are important questions. No, we shouldn't shame anyone, is the short answer.

But more important than the bucket of low performing teachers is the bucket of high performing teachers, they are the most important people in the profession and they are generally and genuinely ignored by the profession.

Your reward in and American school for being really good is to be ignored by the organization the Principal walks by your room looks in and says yup looks pretty good and the reward is I can go deal with somebody else. I can go try coach some teacher who's struggling like crazy and who's probably going to leave in a year or two anyway when the most important, the most effective person in the building goes undeveloped and unacknowledged by the organization. It should not be the reward of excellence to be ignored by the organization that you work for.

So those are some thoughts about Teach Like a Champion where it came from and what it means to study teachers. I hope you'll also read the book but I'm also happy to, these are some of our students at one of our Uncommon Schools in New York City, god they're beautiful. So, you perhaps have questions or comments and now I'm going put on my headset and I'm happy to take them.

Questions

How do you spread best practices?

I think that one of the things about teaching that is least acknowledged is how lonely a job it can be. In what other job do you walk in front of 30 ten year olds, close the door and spend the day in an incredible number of highly emotional, highly fraught, highly intense interactions and have no one to process it with and no one to experience it with and so one of the single most powerful things I think we can do is make teaching a team sport.

One of the things that we do at Uncommon Schools that I think has been most successful for us and maybe this is a way of answering both the first two question is invest lots of time in teacher training and teacher-driven teacher training. So we have, we have a longer school day and a longer school year a lot of people know that about our schools because there's so much to do to catch kids up. But we dismiss kids early on Friday at 1 or 2 o'clock and there are 3 or 4 hours every week of staff training sometimes it's a department meeting or a grade level meeting and you get together with grade six teachers and you watch video of each other or, you know, share best practices or you look at student work and see what they've been writing this week.

Sometimes it's more, you know, centrally driven make sure we've figured out our systems and routines in the classrooms so that we're efficient, but it's all team oriented and like you get together with a group of adults and actually I have a picture here of, you should probably be familiar with who these guys are I think they're playing team handball, oh wait, can you show my slides, is there some way to show my slides?

It's much funnier when I tell you you're probably familiar with these

guys, team handball, this is how, this is what training looks like for FC Barcelona. They train as a team, right, and that makes it pleasurable and fun. They have to do a lot of training and a lot of practice to be great and they tend to enjoy it. Teachers can do the same thing. Teaching should be a team sport similarly.

And the other thing, the other reason I have this picture is that one of the least understood things about teaching is that it's a performance profession. You do it live in front of an audience. Right, unlike being a lawyer where if you're having a really terrible day you can pause and call another lawyer and say what does the Latin phrase habeas corpus mean? Mmmm. Thank you. Then you put the phone down, you walk down to the end of the hall to the little lunch room where you get those fancy snacks that lawyers get that teachers don't get and then you go back to your desk and then you start writing again.

Right, if you're a teacher you can't do that because you're live in front of 30 kids and if you ask a question they all look at you funny, you're live you've got to stop at them. And if you had a great lesson on Wednesday it guarantees you nothing for Thursday. You have to redo it all over again with totally different audience and maybe it works and maybe it doesn't.

Every profession in the world that performs live like that that thinks of itself as a performance profession prepares through practice. They prepare like these guys. They rehearse the skills they want to execute in the game beforehand.

One of the most powerful things one of our schools did was the teachers got together. There was a teacher who was really struggling with discussion in the classroom. She was reading, I remember the novel, she was reading *Diary of Anne Frank*, and she would ask the kids a question and in her lesson plan she said "10 minute discussion on end of the chapter". And she would ask the question that she thought was really brilliant. Why is Anne Frank anxious when she hears the knock on the door? And the kid would give an answer and it would be, the first answer would be totally wrong and so then she would say no, Anne is anxious when she hears the knock on the door because she thinks it might be the SS coming to take her family away and like that was the end of the discussion, right, no more hands after that! And so she realized that when

she got an unexpectedly wrong answer for a kid that she wasn't prepared for she froze and she didn't know how to deal with it and she got very nervous and she shut the discussion down.

So she got together, the Principal suggested why don't you get together with Nicki another teacher in the school and Nicki is really good at discussion and what Nicki and this other teacher Maggie came up with was Maggie read the questions from her lesson plan for next week's discussion from Anne Frank to Nicki for 10 minutes a day, 3 times a week and Nicki pretended to be a kid and she gave her an unexpected wrong answer.

And then Maggie had to think about and say oh, okay here's how I'd deal with that and then Nicki would give her another and Maggie's like okay I can deal with that and then they'd laugh a little bit and Maggie would say no actually the kid would say this and okay I'd say that and so by doing this for 10 minutes a day 3 times a week Nicki got, I'm sorry, Maggie got very comfortable in the situation of "oh my gosh I never thought a kid would say this" and so she was poised and comfortable and she could think and she had practiced how to respond to those and so all of a sudden discussion flourished in her classroom.

What she did was she practiced before the game. Teaching is an incredibly complex performance endeavour and one of the things we never make time for is practice so to return to my longwinded answer here, what we do at Uncommon Schools is we take 3 hours a week for practice and training together as teachers often, teacher-driven sometimes administration suggest topics and before teachers arrive for the first day of school we do three weeks of training together, where we work on our lesson plans and get feedback on our lesson plans together and our bet is that that time will result in more significant outcomes.

How can we educate in poorer, more inequitable settings?

The first thing you have to do if you made me the secretary of state for education is start a job search for your new secretary of state for education, because I'd probably last a day in the job.

I mean in some ways this is an answer to your question about poverty also. There have to be solutions to poverty out there but I'm not a politician, I'm a teacher. And so what I think about is I have to teach those kids in the world that we have because I can't wait for another world to come about, so yes it's unjust, yes it's unfair yes it's unsustainable for democracy but people have done better by those kids and what I want to start by doing is disseminate every great idea that I can so that all those potentially brilliant kids in that high poverty classroom can graduate, go to university and help us figure out the solutions to poverty and there are people who are bothered by that answer, but I don't want to wait for poverty to go away before we start doing better by the kids who are in our classroom.

I think the thing that I would do if I was secretary of state for education is I would make the autonomy and accountability trade. Teachers are problem... one of the other least understood things about the teaching practice is what a problem solving profession it is.

I want teachers to be free to problem solve and then I want to be able to tell them at the end for the day this worked really work and this didn't so I think I would more freedom more accountability I'd do the terrible work, particularly in the UK where there's no annual testing. I don't know, do you know King Solomon Academy in London? Had these sort of tremendous, legendary GCSE this last year. The Principal Max Haimendorf, for five years he operated without any data until they finally got their GCSE results and it turned out they were incredible. For 5 years he had no idea if he was doing it right.

And I just think that like that's brilliant and totally unsustainable, almost un-replicable. And interestingly the way Max got it right was that he studied North Star academy which is a school that does get measured in New York, New Jersey, that has all the iterations of learning from its data so it's gotten very smart very quickly and he built the school based on that. So if I wanted to make schools better in the UK at least I would bite the bullet on some kind of annual measurement. Maybe its not to evaluate it's just to learn, but I'd be the one who was unpopular enough to do that and they could fire me and I'd be happier anyway.

What changes do you see in the future for the education sector?

I think the important thing is again is that teachers are incredible problem solvers so whatever the problem, the challenge is we have to trust in teachers to find the people on the front lines are going to find the best solutions fastest and so this constant cultural shift of new problem, new challenge, new thing that we don't understand, teachers voices have to be included in finding the solutions.

What role should lifelong learning play for teachers?

You asked about teacher, the second question was about teacher training and what role it had. The two most important, so, ideally we wouldn't have to, we do a lot of this training in our schools, ideally really pragmatic useful guidance about how to be successful in the classroom would get to teachers before they started in their schools, but the hardest thing to train in a teacher is content knowledge.

What we've started doing two things we hire for content knowledge and we hire for desire to learn, willingness to learn, ability to learn as a teacher. So often we would ask someone to come in and teach a sample lesson and we'd watch them teach a sample lesson this used to be a great insight because in most schools in America you get hired by going to an interview and talking about teaching and so what you get is schools full of people who can talk articulately and beautifully about teaching and that is a very different skill from getting up in front of a classroom and teaching it.

So our first great insight was well actually we should have people sample lesson and one time when I was a Principal of a school I asked a teacher if she would be willing to come in and teach a sample lesson and she said, 'You want me to do what? How dare you?' And I was actually pretty happy that she said that because it saved me a lot of time I knew she wasn't going to be right for our school.

But what we realised over time was that more than the sample lesson

itself was the feedback that we gave after the sample lesson. If we said wow we really liked your lesson and we thought it was great when you did x, y and z, but one of the things we do at our schools we could call kids, we call on kids whether or not have their hands raised because that's really important, what do you think of that?

Well I couldn't really do that in this lesson because I didn't you know or that's really interesting why do you do that? Fascinating. Yeah I think I could try that I'd be really concerned about making sure that the kids feel it's positive but I could pull that off. Great why don't you come back next week and reteach and try and work in a bit of cold calling and we'll see.

If someone can take feedback listen to feedback come back implement it and get better in a week's time, if we can't win with that person we are doing something wrong as an organisation. So we hire for learning curve, for desire to learn. But the other thing that we cannot teach is subject knowledge you can't teach a teacher a lifetime's worth of chemistry or history so one of the most crucial things I think for teacher training to do is make sure that teachers spend a lot of time on domain specific content, they know their science and domain specific content about how to teach the science. It's much easier to do sort of generalizable training on cold calling, say, than here's the best way to present anabolic glycolysis. That's really hard, so that to me is the greatest value added that teacher training can provide.

Do you incorporate best practices that come from your students?

The first question I didn't totally understand. You can re-ask it or we can move on.

It's good, it's really important for students to transition from answering our questions to thinking of the questions themselves so I think that this is something that lots of great teachers do I think the important thing to me is the notion of gradual release which is when I intentionally teach my kids how to think about what a good question is and here are lots of

good questions and answer them. Before I would say, think of all the questions you want to ask and so I would expect that to be a kind of process a system even in the classroom but I do think that's a common thing that we see in great teacher's classrooms.

How can we make teachers loved?

Love is technique. I know that seems really strange but I'm thinking of a teacher that I observed 3 weeks ago in a school. He's in the toughest school in the toughest neighbourhood in Newark and he's standing at the top of the stairs when the kids come up from lunch and he's greeting the kids one by one on their way to class, touching them on the shoulder. Good afternoon I hope you do well. Make sure your homework is done, young man. It's a combination of warmth and smiling and pat on the back and like I expect the best from you today. You know all different kinds of love. It's beautiful.

What every teacher dreams of is being that teacher. No one dreams of walking into the classroom and being the teacher who can't connect with kids. Who can't reach them who can't inspire them it's why people do the work. What keeps them from being that teacher is technique.

I think people, I don't always know, I don't think at least as much as I do about the degree to which the way that he stands and where he positions himself and the tone of voice, the soft tone of voice that he uses and the way that he touches the student on the shoulder here comfortably before, touches them warmly so that when he touches them because I need to talk to you, you know, you're in trouble the student can't say "don't touch me". You're not allowed to touch me. Which kids do in the US, I don't know if they do it here, but like that's unsustainable, if I've touched you 30 times already out of warmth and caring it's weird to say you can't touch me because, heck, I've been touching your shoulder for 3 months now.

So the thing that allowed him to be that teacher was his mastery of techniques of the strong voice, you know, dropping his voice to deliver constructive criticism to a student, being calm, the quiet power allowed

him to be the teacher he dreamed of being. I think that if you don't enter the classroom because you want teaching to be about love you have the wrong job and you won't last and most teachers who don't exemplify love in the classroom fail because they don't have the techniques to be able to allow them to do it and that to me is why this is so important it allows teachers to be the people that they dream of being who love the work and allows the kids allows us to make sure the kids get those people in their classrooms reliably.

That's a great question thank you for asking.

What books on best practices are still valid?

I think I go back to there has to be a virtuous cycle. I mean any ideas have to grow to stay current because life changes and people change I think that's why the advice in the book is most powerful when it's open source, when you share it and people use it and they give you feedback on it and you change it and the only thing I know for sure about what's in my book is that it's wrong. Some of it has to be wrong that when I visited the great teacher's classroom and she did the thing that makes her incredible I was looking out the window or I saw what I wanted to see instead of what she really did and I was wrong and certainly, like, if it's wrong for New York it's got to be doubly wrong, some things are wrong for here in Barcelona.

And so we have to be comfortable with the notion of constantly changing and so I'd say those things are current if they change and constantly evolving and there's a virtuous cycle of feedback from parents saying yes this is a great idea, but actually when I said that to my kid he didn't like it very much and now he's in therapy right and so now we're a little bit smarter and we say actually what I meant by that is this or you could try it this way so I think the they are current if they continue to evolve and constantly change and they embrace the deep humility of knowing that the only thing you know for sure about your ideas is that they have to be, either they're wrong or they could be better.

And in some ways that was kind of forced on my by seeing the ideas

in my book become obsolete so quickly it just made me realise how smart people are when they use ideas and how much and I've definitely learned more in the period after I wrote the first *Teach Like a Champion* to now than in all the time I was studying teaching before the first book. And now sometimes people come to me and say I've read your book and they hold up a copy of the first one and I think oh my god, that's not the way it should be.

How do you select ideal teachers who can make the most of the training?

Character matters a great deal. I think anyone who's a parent knows this intuitively that the people who are around our kids shape the way that they think about the world by their actions constantly and so yes that has to be one of our top criteria for selecting people. So people of character, people who love to develop who want to continue, we talk about kids being lifelong learners and if that's going to happen the teachers have to be lifelong learners in the school and have to always be thinking about... this is a profession that I've chosen that I will never be done learning about and I'll always be trying to get better and I'm not trying to get better because there's something wrong with me. I'm trying to get better because this job is so important, right, so they have to have that mind-set, have to have character and they have to have subject knowledge.

How are teachers assessed?

I talked a little bit about how we evaluate the, you know, the desire to learn. We run very small schools and so really we do the subject knowledge and the character part through a lot of conversations with people. What we try and do is get down to a very small number of people very quickly and then spend a lot of time understanding how they teach and how they think about education.

I don't know that I think there's a formula you know that a lot of like movement in you know if you go to an MBA they'll say, ah you should give an assessment, you could do a personality assessment to tell very quickly whether someone is you know ethical or has a learning modality I know I said earlier that you know measurement is the first step in innovation but I don't really buy it for evaluating the intangibles of teachers. I think you just have to keep your eyes on the right compass headings about... is this a person who I would put in the classroom with my own children?

Should primary education be a separate undergraduate course or should it be a postgraduate course taken after specializing in another field?

I would definitely be in favour of undergraduate study in their subject area for teachers as opposed to in the US many teachers study 'education' undergraduate and I would rather if I could make a change I would rather they study history or science and know their content deeply and then study the craft of teaching as a graduate student I think the data is pretty clear on that at least in the US.

Should students be grouped together in terms of flexible levels?

The first question was about what we call level grouping, which is can you divide students into groups based on their ability. No, not on ability, but yes on achievement, right, those are two very different things so the name that I've put on this is really important.

Does it help teachers if I divide the class into kids who can add fractions with unlike denominators and kids who can't? Would my lessons be better, yes I believe that's true we generally do at our schools but the groups are flexible, they constantly change and the narrative is this is not about the child's ability it's about how much they've mastered of the thing you're teaching them right now but it allows teachers to be much more targeted to be, you know, what we do in the US is we teach to the

middle if you have a bell curve of kids in terms of their skill mastery of whatever you're teaching you teach the middle and so the kids up here never really get challenged the way that they need to and you never build the culture of challenge that pulls these kids up because these kids their minds are on fire and they're a model for the rest of the kids and the kids at the bottom get ignored too

So we found it helpful in many cases to do achievement grouping with the caveat that it's not ability grouping and it constantly changes, we tell teachers we have to regroup all the time you know so that the message is clear both to the kids but also to the teachers that achievement is fluid and it's constantly changing and as soon as I decide that this is a low kid that's a cancer this is a kid who can't learn, it's not a low kid it's low achievement by a student with immense potential.

About the author

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