

Carol Dweck: "The Growth Mindset" | Talks at Google
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MC: Before we get into mindsets, I want you to share what we have learned is now the widely-discredited theory of self esteem and the self esteem movement.

CD: In the 1990s the self esteem movement took over the world. We were told to tell everyone how fabulous, brilliant, special they were all the time. This was going to motivate them and boost their achievement. Instead, as you said, it was a complete disaster. It led to the acceptance of mediocrity. It didn't challenge people to fulfill their potential. And our research showed telling people they're smart actually backfires. It makes them afraid of challenges, it makes them fold in the face of obstacles, because they're worried, oh, does this not look smart? Am I not smart? The whole currency is built around smart.

MC: What triggered your interest in going deeper and researching how people are motivated to learn, and how did that lead to your definition of mindsets?

CD: I was always interested in why some people wilted in the face of failure, shied away from challenges, when people who were not more talented or able were embracing challenges and thriving in the face of failure. Ultimately this led to our discovery of the mindsets. And what we found was that some people believe their talents and abilities are just these fixed traits -- you have a certain amount and that's it. But other people believe talents and abilities can be developed through hard work, good strategies, good mentoring from others. Through years of work, we found that having a fixed mindset led you to be afraid of challenges that might unmask your deficiencies, made you withdraw in the face of difficulty because you felt stupid. You didn't want to feel stupid. You didn't want other people to think you're stupid. Whereas having this growth mindset, the idea that your abilities could be developed, made you think, why waste my time looking smart when I could be getting smarter? And I do that through taking on challenges. I do that through seeing them through. Now granted, that doesn't mean everyone's the same, that they don't have different talents and abilities. It just means everyone can grow.

MC: And sort of building on that, you really can't watch a sports broadcast or the TV show America's Got Talent, which has talent in the name, without hearing how talented that player is. Or seeing someone perform the ballet and say she has tremendous talent. What role, if any, does innate talent play?

CD: Well, they do have talent now, when we're watching them, but I think it's created a nation that thinks when they see someone displaying talent or incredible performance, they were born that way. And they've had this inevitable rise to great success. I teach a freshman seminar at Stanford every year, and I have my students do an assignment where they do research on their hero. And almost invariably they think that hero just catapulted to success because of this amazing inborn talent. But every single time they find that the hero put in inordinate amounts of work, met with obstacles, and really powered through them. So I don't rule out the idea of the fact that some people are born with passions and talents and build those, but many people who never achieve

anything are also born with talents and passions that they don't see through. And what's there, what we come with, that's raw material that you've got to develop. Michael Jordan, it turns out, wasn't particularly talented until he went at it so ferociously, more ferociously than anyone else.

MC: Over lunch we had an interesting discussion with part of the team here about growth mindset, fixed mindset, it's a great simplified way to think of it. Yet people can have both, and it's more of a spectrum. Talk a little bit more about how you can have both mindsets at the same time.

CD: Yes, we're all a mixture. It's true that you could have a fixed mindset in one area and a growth mindset in another area. And it's true that it's a spectrum, not a dichotomy. But it's really dynamic. Even in a given area, sometimes you're in a fixed mindset. You think, oh, my abilities are fixed, I have to prove them, I have to look smart, I can't show that I'm working too hard. People might not think I'm so smart. And other times we could be more in a growth mindset. So what we have to start doing is looking for what triggers the -- because the fixed mindset holds us back, we have to start looking for what triggers it in all of us, even me. What happens when you're facing a big challenge? Do you worry about, well, I'm going to unmask deficiencies. What happens when there's a setback? Do you think, maybe I'm not good at this? What happens when you're receiving criticism? Do you get angry and defensive? What happens when you see someone who's better than you in what you're good at? Do you feel jealous and resentful, or do you feel inspired? Maybe I can learn from that person. Maybe they can mentor me. So watch out at these trigger moments. See how you're feeling. And see if you can get yourself into more of a growth mindset.

MC: So actually I have two children, daughters, college age and high school age. I read your book after my older daughter was approaching high school, but my younger daughter benefited from it to the point where I banned the two S-words in our house -- smart and stupid. I never used the latter, but I was very guilty of using the former. Raise your hands if you told a friend, or a child, or a loved one how smart they are. Words are really powerful is one thing I took away from your book. Talk about trigger words like that: smart, stupid, and how those can work against your best intentions.

CD: Yes. When you call someone smart, you put them in a box. Or really, you are kind of putting them on a pedestal. And their life becomes organized around deserving the pedestal, staying on the pedestal. And you can only do that by narrowing your life to include only things you are sure you're good at, only things you're sure you can succeed at. When we tell someone, you did that so quickly, I'm so impressed, they hear, if I didn't do it quickly, you wouldn't be impressed. A lot of things take a long time. Or you got an A without working, then they think, oh, if I work you're not going to think I'm smart at math, say. And so you're just very subtly conveying these ideas that smart people don't make mistakes, smart people don't have to work hard, the most important thing in the world is to be smart and look smart at all times. And then people start narrowing their world so they can succeed within that fixed mindset.

MC: So one thing at Google that we're obsessed with is proving things through data. And one of the compelling arguments your book made was around the research you did with children in school environments. So talk about some of that early research and how it's evolved to reinforce that there's weight behind this concept.

CD: Yes, we've done research, now, with tens of thousands of students. First, finding that those who naturally have a growth mindset do better. We've traced them over challenging -- especially in challenging courses, like pre-Med organic chemistry; or challenging transitions, seventh grade, high school, college transitions. We've studied all of those. Recently we studied all of the tenth grade students in the country of Chile, 170,000. And we found that at every level of family income, those who believe they could develop their intelligence perform substantially higher on achievement tests than those who thought they couldn't. And the most striking thing was that among the poorest kids, those who had a growth mindset were performing at the level of much wealthier kids. But importantly, because those are correlations, we've done a number of studies where we have taught students a growth mindset. The idea that every time they do a really hard task and stick to it, the neurons in their brain form new connections and they can get smarter. And then we show them how to put that into practice. We have found that students who learn this fare better across challenging courses and transitions. We just showed that in a study of women in STEM classes at universities around the country. But we've shown that at the transition to college, transition to high school, and so forth. So teaching a growth mindset leads kids to take on the challenges, stick to them, and improve.

MC: So in our current education culture, and then I want to switch into the work environment, there's such an obsession with standardized testing and those tests having a real material impact on teachers' advancement and even, in some cases, their income. How do school systems battle on that front and at the same time tackle growth mindset, which is more about working hard in the process than the actual end results?

CD: Yes. It's such an interesting story, because standardized tests were brought in for good reason. There were students in certain parts of the country and in certain schools who were performing so poorly. And nobody knew and nobody cared. And it was an attempt to say, let's not cheat kids out of a good education. But we all know the unintended consequences. School became about standardized tests, and many teachers, feeling that their jobs or their raises were on the line, taught to the test the entire year. How rewarding could that be for teachers or for students? And we did research to show that a lot of students think that those tests measure how smart they are and how smart they'll be when they grow up. So they're nervous about them, and the whole year is spent on them. When, in fact, if you just taught kids, and in a way that made them love learning, to love challenges, know how to stick to them, feel the thrill of improvement, then the test score would come as a byproduct of that. Finland, the country that does so well on all these international tests, they don't teach to the test. They teach. The teachers love teaching, the kids love learning, and they do well on the test. Let's get back to that here.

MC: So going into the corporate environment, can you actually think of an organization as a growth mindset organization or a fixed mindset organization? You do talk about Enron in your book as an example of probably not the positive side. So talk about how you can look at it from an organizational level, and then if you want your culture to be a growth mindset culture, how do you start to tackle that?

CD: Yes, yes. So in my book, I identify organizations that value talent, raw talent, above all else, believed in everyone's ability to improve and develop and valued that. In our recent work

we've actually gone in and asked the people. We asked employees in different Fortune 500 organizations, what mindset does your company have? Is it a company that believes in fixed talent and then worships it? Or is it a company that believes everyone can develop their abilities and really provides these opportunities? And what we found was there was remarkable consensus within organizations about which mindset their organization has, and more important, it made a big difference.

MC: So in terms of that difference, you kind of compare and contrast companies that you view as leaders in growth mindset versus those that have struggled maybe because of a fixed mindset culture.

CD: Well, in this research, we found that employees in growth mindset organizations said they felt more empowered by the organization and more committed to it. Whereas their counterparts in the more fixed mindset organizations kind of had one foot out the door waiting for the next highest bidder. But to me, what was even more interesting is that the people in growth mindset organizations said their companies valued creativity, innovation, and they really put their money where their mouth was. So if you took a reasonable risk and it didn't work out, they said my company has my back. My company really values teamwork was another thing they said in the growth mindset organizations. In the more fixed mindset organizations, the employees said, yeah, the company talks innovation and creativity. But if things don't work out, someone pays the price. And finally, the managers in the growth mindset organizations said that their employees had tremendous potential to rise within the organization, become stars, join management. Whereas, and I love this finding because in the fixed mindset organization, they're worshipping the talent and hiring the talent, and paying to keep the talent. But a few years later, they're not saying there are a lot of people who have potential to rise in the organization. Either they've left or they don't have the potential anymore.

MC: So many of us in the room participate in interviewing potential candidates for Google. So let's assume for a second that Google's trying to have a growth mindset -- I hope that it is. What are strategies that interviewers can use to help identify that train people, or that identify that someone will be open to going down that path?

CD: Great question. I worked with a major league baseball team, so I'll talk about that first, to devise questions that they could ask to potential draft choices. One was, how did you get so good at baseball? And some of them said, well, you know, I was born with this natural talent. And others said, well, my father and I -- we worked at it constantly. We had a batting cage in the backyard. He filmed me, we watched the tapes, and so forth. Another one was thinking about on-field success in the major leagues, what do you think you'd have to change? And some of them said things like I'll have to get used to the cheering of larger crowds. And others said, maybe everything. I'll have to take all my skills to a new level. It's a whole new ball game. So this knowledge that you might have to really reorganize, redefine yourself and build new skills is really important. Taking that to the corporate setting, first I might ask people what their greatest failures were, see whether they take responsibility, and what they did with that failure. Did they capitalize on it to do something even better than they could have imagined? Did they use it to put value added back into the company? Or on the other hand, did they say well, I had this failure. I worked too hard. Or do they make it something that really reflects well on them,

or was it someone else's fault? And then this kind of readiness to learn, readiness to share credit, these kinds of questions.

MC: So I've debated your theories of mindset with colleagues over lunch, particularly my last company. There was really this resistance to accept that talent and/or intelligence were in any way malleable. Talk about that for a minute. Is intelligence truly something that's malleable? And maybe other physiological differences between people that you've researched that are identified as growth mindset or fixed mindset.

CD: So we absolutely know that skills and abilities are malleable, and that's kind of what counts. That's what turns itself into performance. But there have been fascinating studies. First of all, looking into the brains of fixed and growth mindset people as they work on a hard task and make errors, and you see that the people who are in a growth mindset are having the relevant areas of the brain really light up, catch fire as they process the errors and correct them. Whereas in the brains of the people who are in more of a fixed mindset, very little is going on. They're seeing their errors, and they're moving on as quickly as possible. But my favorite study along these lines tracked teenagers from the age 14 to 18. The teenage brain -- our brains are still very malleable, but the teenage brain is unbelievably malleable. It's a time of tremendous potential growth. And what they found over those four years was that there were some kids who gained a lot in IQ points in math or verbal areas, and there were others that lost a lot of points, and it tracked with the density of their neurons in the relevant parts of their brains. So we believe that the kids who really went at it, and took on the challenges, and worked hard were creating these denser neurons, and the others who didn't use it lost it.

MC: And I thought another interesting aspect of your research was, this could apply in education, at home, or in business is the proclivity to cheat based on the mindset a person is in. Talk a little bit about that.

CD: Yes. We have studied that directly. And we see that cheating is more -- the desire to cheat and the actual cheating -- is more prevalent within a fixed mindset. Within a fixed mindset, if, say you haven't done well in a subject before, but you want a good grade, you feel like, oh, I have to find some circuitous means. But if you feel that there are many ways that you do better through actual learning, you're more likely to do that. So in one study after a poor grade, students who held more of a fixed mindset of their intelligence actually said in advance they're seriously considering cheating on the next test.

MC: So in your recent TED Talk --

CD: Oh, I want to say one more thing. In our business study, the people in the fixed mindset organization said cheating and deception were much more prevalent. And think about it. If I have to be smarter than you, if I have to be the superstar, I'm going to consider all different ways to look better than you look. And if I have to keep secrets from you or hoard my knowledge from other people, I'm going to do that. But in the growth mindset organization where people are collaborating and learning, and tackling challenges together, where's the cheating going to come in? It isn't.

MC: So if a company observes that behavior, and it's a company of scale -- let's say it's not a company of ten people, but of hundreds or thousands -- and they recognize we have a culture problem. How do you go about even trying to tackle that? What are some of the strategies companies can use if they decide, we want to shift the culture. We know it's going to take time. It's not just a switch that you flip. What are some of the strategies a company could employ to change the culture?

CD: So I think the best thing is for the message to come down from the top, where they don't just announce we're a growth mindset culture. They really explain what the new value system is. The new value system on taking on challenges, on rewarding reasonable risk, on teamwork, on sharing information, giving performance evaluations that speak to people's growth and contribution to the company in terms of learning, and salary increases that take into account: did someone take on challenges, improve, help other people improve, were they a good team player. Bottom line counts, but these things also count. So to talk growth mindset talk without backing it up, I don't think that's going to happen. If you have the old reward system that's rewarding individual jockeying for acclaim and power. But if you back it up with evaluations, rewards, and mentoring, and what a growth mindset deeply means, and how it can be enacted within the job, I think that that's a great start.

MC: In your recent TED Talk you talked about the power of yet, which I thought was a very interesting concept. Talk a little bit about that.

CD: Yes. It all started when I learned about a high school in Chicago where students had to pass maybe 84 units to graduate. And if they didn't pass a unit, they got the grade Not Yet. I thought that isn't that great, because if you get a failing grade, you think, I hate this, I'm out of here, and you kind of lose your steam. But Not Yet means hey, you're on a trajectory, a learning trajectory. Maybe you're not at the finish line, but you're on your way there. And the students went around the school unabashedly saying to each other, how many Not Yets do you have, how many Not Yets do you have? So we started a program of research that's still continuing on the word Yet, and showing that saying Not Yet after a wrong answer keeps up motivation and encourages persistence. And listen to yourself. If sometimes you say, I'm not a "hmm" person, or I could never do "hmm," then just add the word Yet. If one of your employees say, I can't do it, I'm no good at this yet, it takes a very fixed mindset statement, and it puts it in a whole different growth mindset context.

MC: Just the second to last question for me is you did some interesting research very recently around gaming and gaming applied to math. Talk a little bit about how you're able to incorporate your concept of the growth mindset into that experience.

CD: We teamed up with Zoran Popovic and his colleagues at the University of Washington to create a math game called Brain Points that incorporated growth mindset principles. There were algorithms built into the game that detected the students' effort, their use of strategies, and their improvement. And then in our experiment, we compared Brain Points to the standard version of the game. Now the standard version of the game is the usual game, where the more you zoom through and answer problems correctly, the more you rack up points. Not in Brain Points. Actually, if you zoom through, it apologizes to you and says you didn't earn any points that

time. We're sorry. We'll give you something more challenging the next time. So what happened was this: First, students played -- these were grade school students -- they played longer because they could leave the game at any point. They played significantly longer. They used more strategies. We dropped in difficult problems occasionally. They persevered on them longer. But this was my favorite finding: In the standard version, it was mostly the high achievers who played to the end. But in the Brain Points version, they stayed in, they played to the end, they liked it, but so many more lower and medium achievers also stayed till the end.

MC: So what keeps you up at night as you think about where your research can go, because like any scientific endeavor, it's constantly being challenged and revisited. What keeps you up worrying about where your theory could be right or wrong or improved?

CD: Yes. I always had this attitude of challenging my ideas and my theories, because if you're wrong, you want to know it as soon as possible. You don't want to spend your life on it. So what keeps me up at night in a good way are different areas where it could be applied. So we have a whole program of research on peace in the Middle East where we're using mindset principles. I'm not minimizing the hugeness of the problem, but we're using mindset principles to try to build some greater understanding. So I love to think of ways that we can extend it into areas we never thought of before. I love to think of ways to implement it so that more kids who need this way of thinking can benefit from it. And something that also keeps me up at night is the fear that people are developing what I'm calling a false growth mindset. It's this idea, if it's good, I have it. So a lot of people are kind of declaring they have it, but they don't. They think it just means open-minded or being a nice person, or maybe they're saying they have it for fixed mindset reasons. I want you to judge me as being the right kind of person. So developing a growth mindset is really a journey. It's a lifelong journey of monitoring your trigger points and trying to approach things in a more growth mindset way of taking on the challenges, sticking to them, learning from them. So right now I'm writing something for educators that I'm calling false growth mindset to tell them, no, you can't just say it. You have to take a journey. Because we're doing research now showing that many teachers and parents who say they have a growth mindset are actually responding to kids in ways that are creating fixed mindsets for the kids. So that's kind of the array of things that keep me up at night. But that said, I do sleep pretty well.

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