



Learn Like A Genius

Gregg Goodhart, The Learning Coach

ggoodhart.com

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Using Brain Science for Accelerated Skill Development

Mindset

- Researcher Carol Dweck. (2006)
 - Her three decades plus of research has addressed **why**, to put it colloquially, **most of us can't get out of our own way when it comes to learning**.

Much of following, through 'Dan Snyder', was taken from a *Revisionist History* podcast episode.

(Gladwell, 2016) Some of the stats were corrected using basketballreference.com.

- Wilt Chamberlain, Hall of Fame NBA player, still holds the single game scoring record with a 100 point game at the end of the 61-62 season. 50% free throw shooter before this year, his career best at 61.3% (16 year career average 51% with many years in the 40's). 28 out of 32 at the line, 87.5% in the 100 point game.
 - Teammate Rick Barry (Career FT 89.3% [94.7% in 74-75]. Over 90% 8 out of 10 seasons with one other being at 89.9%) Wilt modeled his free throws on Rick, and shot a career-best 61% from the line in 1961-62 ups from 50% the previous year. And that was just the beginning.
 - Rick Barry would miss 9-10 FT per season, LeBron typically misses about 150. **How did he do it?**
 - Barry explains that his technique improves shooting from the line for big men. Softer hands on free throws, more 'bad' shots go in. If you are offline it is more forgiving.
 - What did Chamberlain do? Shot underhanded, 'granny style', between his legs.
 - So, he had a problem, tried a solution and it worked so well that he set an all time record, then stopped doing it. Barry says – he could have been way, way better.
 - He had every incentive to continue. He improved from 50% to 61% in just the first season he started working with the technique, and the 100-point game was at the end (of course!).
 - He never shot free throws that way again. According to Wilt in his autobiography;

I felt silly like a sissy shooting underhanded. I know I was wrong (emphasis added), I know some of the best foul shooters in history shot that way. Even now the best one in the NBA, Rick Barry, shoots underhanded. I just couldn't do it."

- Barry approached Shaquille O'Neal, a career 52% free throw shooter, and offered to teach him how to improve. According to Barry, O'Neal said, "I'd rather shoot zero than shoot underhanded." What if Shaq shot 80%. Think of that career. And why did it not happen?
- Barry worked with a modern NBA guy who got it down, then never had the nerve to use it. Barry will not give his name so as not to embarrass him!
- What is there to be embarrassed about? Being great?

- Barry’s dad told him in high school to shoot underhanded. He was already about 70%. He did not want to do it – Dad their going to make fun of me. “Son, they can’t make fun of you if you’re making them.” He did it and in the first game on the road a guy in the stands yells out, “Hey Barry you’re a big sissy shooting like that.” They guy next to him says, “What are you making fun of him for he doesn’t miss.”
 - There is always a solution. Do we always pursue it?
- Taught NFL Dan Snyder early in his career about the relative value of draft picks and he was enthusiastic, and then did the opposite in the draft.
- Dominick and nails.
- It is important to understand that we sometimes evaluate and decide to use information based on unreasonable emotional evaluations. Like Wilt we may know we are doing it, but do it anyway. That is a choice, and how much we improve will be significantly affected by how you deal with this.
- This is the teaching of ‘buy-in’. It is hard to get full focus if the student does not truly believe that what they are doing will pay dividends, and not only will it pay dividends every time, but learning will become more and more fun as one gets better and better if effective teaching is happening (see the rest of this document for that). At every moment of frustration, or every rejection of something as ‘stupid’ point out that is just part of the process. It is OK to feel bad, now on to the fixing it in a way we know will work - mindset. Time to improve!
- What if you were just a small tweak away from upping your skills like that?
 - **You are.**
- Growth vs. fixed mindset
 - See attached handout
- How do most of us deal with failure/mistakes during the learning process?
 - Why are mistakes a problem, and why should they make us upset? They are instead opportunities to learn what not to do, just pieces of information for the reflect and plan pieces of deliberate practice that move us closer to better and better performance.
 - Once, after his college team lost the last game of the season Michael Jordan went and practiced his shots for hours.
- Two in-game broadcasters, Jim Deshaies and Len Kaspar (2019) talking about MLB all star Javier Baez:

Len Kaspar: I was talking to somebody about Javy the other day, how free and easy he is and how mistakes don’t compound. Make a bad error, have a bad strikeout, have a bad *swing* and it never seems to affect him negatively on the next swing or play. That’s a skill. . .He is the kind of guy, in a complimentary way, teammates can get frustrated with him because they get anxious and stuff bothers them, and they can make two to three errors in a game. They wonder how it can’t happen to him.

Jim Deshaies: Yeah, he has ability to kind of put things behind him in a hurry.

Len Kaspar: It’s so instructive, but it’s impossible to teach. It’s what makes him so great.

 - He is right about how game changing this skill is in performance, but how does he know it is impossible to teach? It is the teaching of mindset.
 - Decision fatigue. (Baumeister & Tierney, 2011)
 - Praise the work, not the ‘talent’. This is simply the truth and not a manufactured motivational strategy.
 - Perseverance/patience not only with the skill at hand, but also learning the skill of mindset.
 - Setting goals is good, setting deadlines may not be.
- **There are wrong answers**, and we do a service to students when we allow them to face failure and solve these relatively small, relatively uncomfortable problems to build the skills of adult self-reliance. Are they really that fragile? Not with the right mindset.
 - Childhood setbacks
 - People and their words. . .
 - <https://youtu.be/hSp8IyaKC0?t=10>

- Honesty in assessment – critical feedback for formative assessment in learning
- Aren't we called to be their mentors, and not their friends?
- Don't believe the road signs that nature puts up along your quest for skill development.
 - Research shows that there is no fast track to improvement. Level of accomplishment always correlates with amount of practice.
 - Don't measure yourself against where you want to be, measure yourself against where you have been, and how you have improved over the course of months, at least.
 - That is not to say one should not hold in their minds, and observe in life, examples/visions of what one wants to strive toward. Having these models is especially important if high-level skill acquisition is the goal. (Ericsson, 2016)
 - Don't compare yourself to others by age. Compare by hours put in and, more specifically, the type of work done during those hours.
 - How progress is measured. Days vs. weeks or months. The long arc of performance development.
- **Skill acquisition is set up backward** to what most people perceive it should be. Many perceive that because something is hard at first and little progress is made with great effort that they do not have talent. In reality it is pushing through this initial phase and getting to a level of competence in which higher-level accomplishment can be trained *is itself* 'talent'. Many tend to think that being really good at something right away (which never happens, the research is overwhelming on this) reveals a 'talent' and then hard work to reach one's potential can begin. This is part of the misunderstanding of talent.
- **So how are we** supposed to get students to push through this and get to the point where their rich mental models make learning robust and fun? Why not try. . .

Real Accomplishment as Motivator

- We cannot get there without pushing through the initial learning (Blearn, motivation, allocation of time, acquisition of instruction, etc.) just like your muscles would be sore and you would hurt for a while if you started working out. It is a myth that any given individual begins learning a skill *with no previous exposure or participation in that domain significantly* faster than anyone else.
- Development and Adaptation of Expertise: *The Role of Self-Regulatory Processes and Beliefs* by Barry J. Zimmerman. (2006)

Using several domains this research showed that genuinely getting better (good) at something through proper training created a genuine interest in participating in *and improving* in a given domain. "Because successful learners view strategic processes as effective means to an end, they are motivated more by the attraction of positive outcomes of these processes than by the fear of adverse outcomes (Pintrich, 2000)," (p. 709)

 - This is the source of real self-esteem and self-efficacy.
 - Passion can be developed and nurtured. Could all passion for life pursuits come from here?

Flow

- The good news is that it appears the brain is designed to crave high level problem solving/cognition, after all that is how humanity has advanced over the course of time, but the price of this productive state of enjoyment is persevering through the initial unpleasant stages.
- This is the work of Mihalyi Csikszentmihalyi (2003) who has devoted his career to explaining that state of losing ourselves in a challenge, time melting off the clock, and much being accomplished. This is what some people refer to as the 'zone'.
- It is a real psychological phenomenon, and it appears that this is the highest state of efficiency at which we can function.

- The mental state of operation in which a person performing an activity is fully immersed in a feeling of energized focus, full involvement, and enjoyment in the process of the activity. In essence, flow is characterized by complete absorption in what one does, and a resulting loss in one's sense of space and time.
- If the task is too easy we will become bored If the task is too difficult we will become frustrated.
- When high ability meets a higher challenge we lose ourselves in the challenge and time melts off the clock. This is the most efficient way to coach and design lessons.
 - When it happens write it down.
 - Keep asking questions and redirecting focus – every second (though don't forget about the importance of recovery periods. A little silliness for a minute will usually do the trick. After some intense work I might say, "Now would you please recite the Gettysburg Address . . . backwards . . . and in Latin." Clear the mind, reset, and begin again).
- He makes a distinction between enjoyment (when the brain is stimulated and we are in flow) and pleasure (lying on the beach, watching TV, etc.).
- This is the state we all strive for, but we do not know that as beginners. This applies to everything we do (general learning theory).

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