



Learn Like A Genius

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Using Brain Science for Accelerated Skill Development

Self Control

- Also called executive function by neuroscientists and self-regulation by psychologists. Many people call it willpower. This refers to the basic ability to choose “should” over “want”.
- This is wired up in the pre-frontal cortex of the brain.
 - The PFC is very underdeveloped in the young and will not finish developing until the age of 25 (ever wonder why your insurance goes down, or you can't rent a car until you are 25?).
 - Self-control is learned just like instrumental skills – we engage in the behavior (create the neural network) and then reinforce it by repeating it over and over (myelination).
 - Because this control of impulse is unpleasant for a young person, and indeed many people, many times they have to be taught, and sometimes structured into these behaviors. It takes a good deal of self-control on the part of parents and teachers to make children do things that appear to make the child uncomfortable in the interest of making them self-reliant adults. That is one of the greatest acts of love we can do for a child: not praising them effusively for doing nothing or being their friend.
 - We have a limited amount of this resource, but with work it can be increased as *generic willpower*, that is to say that they can be used to make yourself do any number of things you may not feel like doing. (Baumeister & Tierney, 2011)
- Habit pattern development. Practicing, and doing work properly, can be developed incrementally into a habit. (Duhigg, 2012; Baumeister & Tierney, 2011)
- Self-esteem movement of the 70's, 80's, 90's
 - Studies show self-esteem correlates with good grades (self-control) (Baumeister & Tierney, 2011)
 - Educators and others believe that praising children for nothing (everyone gets a first place trophy!) will impart self-esteem thus facilitating better grades.
 - Yet this does not identify the causal factor. Why believe that self-esteem leads to good grades *when it could be that good grades lead to self-esteem*, and that is indeed what later research found, and it seems this movement is coming to an end. However many of our children have been raised to some degree to believe they are superstars for doing nothing, and expect to be treated that way. They have underdeveloped pre-frontal cortices and in severe cases are living with their parents as adults *with no intention of accomplishing anything else*. They may expect their parents to treat them a certain way, but that is not going to work with society at large.
 - Researchers ran with it with one in 1994 praising it in the news. What did not make news was the end of his report in which he said it was,

...disappointing” to see the lack of really solid evidence “to date.” (Smelser, 1989, p. 1)
But better results were expected once more work was done. . . The studies were

continued, and eventually another institution commissioned another report. This time it was not a political unit, like the state of California, but a scientific body, the Association for Psychological Science. . .(They) sifted through thousands of studies looking for the ones that met high standards of research quality. The panel found several hundred like the one that tracked high school students for several years in order to understand the correlation between self-esteem and good grades. . .It turned out that grades in tenth grade predicted self-esteem in twelfth grade, but self –esteem in tenth grade failed to predict grades in twelfth grade. Thus it seemed, the grades came first, and the self-esteem came afterward. (Baumeister & Tierney, 2011 p. 190)

- Search, “You Can do Anything,” a Saturday Night Live sketch for a funny view of this phenomenon (rated TV 14). After you laugh you may cry when you realize how accurate it really is.
- Misunderstanding and oversimplifying a complex idea like mindset.
 - At the beginning of chapter 3, *Working Together*, Earl Woods (1997) he includes writes the following: “Fun, Competition, Opportunity, Concentration, Humor, Patience, Positive Attitude.”
 - Exaggerating the significance of some of these while dismissing others to make it fit a personal belief system is not effective. Do some people just hear the words, “Fun, humor, positive attitude?”
 - What do these words really mean in context?
- Efficacy of self-discovery learning vs. explicit instruction is not either or, but an art form.
- Creating motivation without failure.
 - This world does not exist (mindset), however there is much that can be done to reduce the negative and produce lasting positive habit patterns.

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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