

# DEEP PRACTICE AND PRODUCTIVE STRUGGLE

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# DEEP PRACTICE

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## DEEP PRACTICE

Take 45 seconds to look over the following list of pairs of words, but do not write anything down.

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bread/b_tter	ocean/breeze
leaf/tree	music/l_rics
sweet/sour	sh_e/sock
phone/bo_k	movie/actress
chi_s/salsa	gasoline/engine
high school/college	pen_il/paper
river/b_at	turkey/stuffing
fruit/vegetable	be_r/wine
computer/chip	television/rad_o
l_nch/dinner	chair/couch

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## Directions

- Without looking at the list of pairs of words, write down as many pairs as you can. You do not need to remember where any missing letters were nor which column a pair was in.
- Looking at the table on the next slide count how many pairs are in column A versus column B.

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A	B
ocean/breeze	bread/b_tter
leaf/tree	music/l_rics
sweet/sour	sh_e/sock
movie/actress	phone/bo_k
gasoline/engine	chi_s/salsa
high school/college	pen_il/paper
turkey/stuffing	river/b_at
fruit/vegetable	be_r/wine
computer/chip	television/rad_o
chair/couch	l_nch/dinner

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**Table:** Word list from [The Talent Code](#).

According to **The Talent Code** by Daniel Coyle, studies show that on average people remember 3 times as many pairs in column B, the one with missing letters. Maybe a room full of mathematicians will have wildly different results...

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The claim is that a microsecond of struggle (cognitive demand) makes all the difference.

# PRODUCTIVE STRUGGLE

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Note: Analogy inspired by Patrick Rault (University of Arizona).

“Any creative endeavor is built on the ash heap of failure.” — Michael Starbird

“You will become clever through your mistakes.”  
— German Proverb

“If you want to sharpen a sword, you have to remove a little metal.” — Unknown

## THE BIG PICTURE

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## Claims

- An education must prepare a student to ask and explore questions in contexts that do not yet exist. That is, we need individuals capable of tackling problems they have never encountered and to ask questions no one has yet thought of.
- If we really want students to be independent, inquisitive, & persistent, then we need to provide them with the means to acquire these skills.

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- If we really want students to be independent, inquisitive, & persistent, then we need to provide them with the means to acquire these skills.

## Some items to be aware of

- This class requires **active learning** and **mindful preparation**.
- My role in the course is **consultant, instructional designer, feedback-giver, mentor in the middle**.

“Every time that a human being succeeds in making an effort of attention with the sole idea of increasing his grasp of truth, he acquires a greater aptitude for grasping it, even if his effort produces no visible fruit.” — Simone Weil