Growth Mindset in Academic Advising

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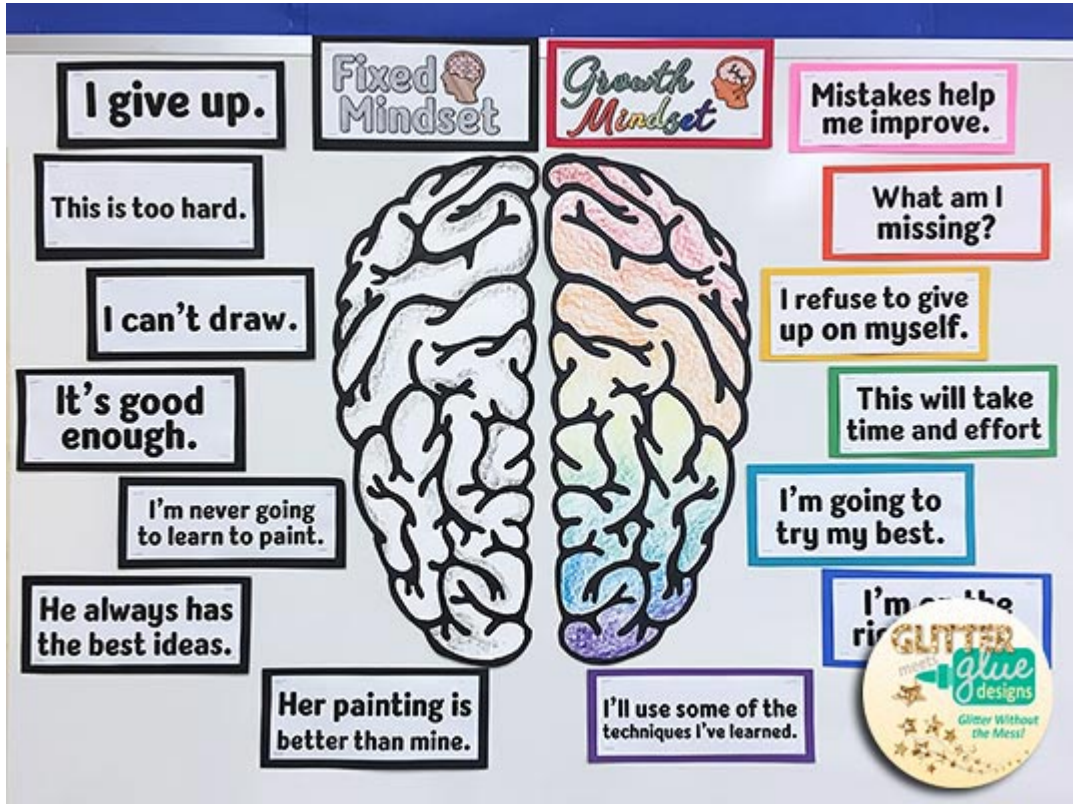
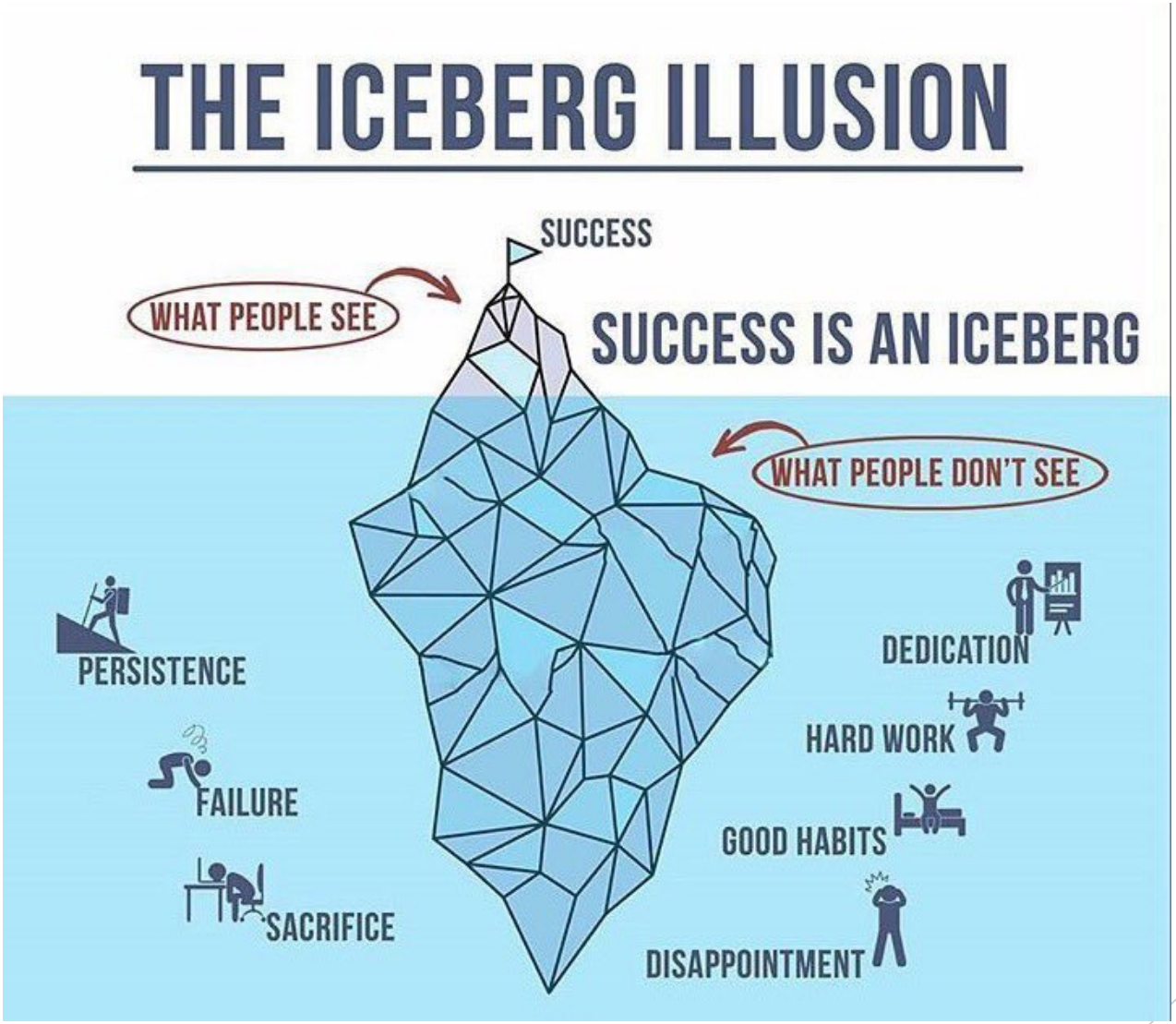
Agenda

- The Theory of Growth Mindset
- How to Apply the Theory of Growth Mindset in Advising
- The Game "Poison"



How Growth Mindset became a reality in my life…



Prof. Carol Dweck
Stanford University

https://www.youtube.com/watch?v=hiiEeMN7vbQ

*"Individuals who believe their talents can be developed (through hard work, good strategies, and input from others) have a **growth mindset**.*

*They tend to achieve more than those with a more **fixed mindset** (those who believe their talents are innate gifts)."*

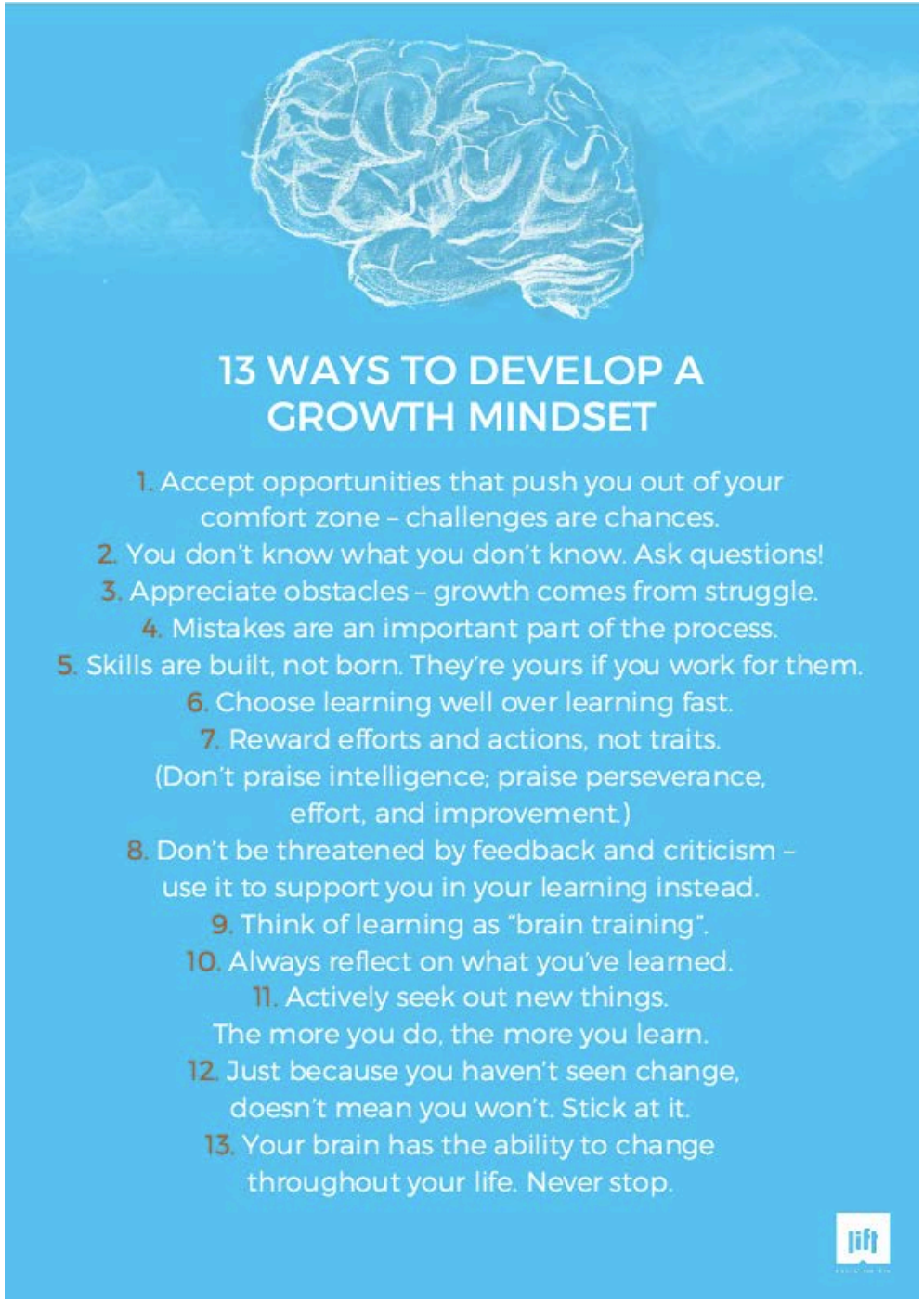
- Carol Dweck, PhD and Professor of Psychology at Stanford University

Read more at: GetLighthouse.com/Blog

Growth Mindset Theory

- Survey
  - Strong Growth Mindset = 45 – 60 points
  - Growth Mindset with some Fixed ideas = 34 – 44 points
  - Fixed Mindset with some Growth ideas = 21 – 33 points
  - Strong Fixed Mindset = 0 – 20 points
- Discussion
  - Fixed Mindset vs. Growth Mindset

- Transformative Advising
- Growth Mindset Language
- Growth Mindset Behavior
- Advising STEM Students
- Advising Non-STEM Students



discussion

Conversation starters

- What about advising students with learning disabilities?
- When a student feels defeated…I could say ***
- I advise x students who "hate" math…what strategies could I use?
- Prof. Dweck talked about children, how can adults learn when they are already fixed in their ways?
- What is grit?

4 Step Problem Solving Method

George Polya. (1945) "How to Solve It"

1. Understand the Problem
2. Devise a Plan – Problem Solving Strategies
   - Guess and Check
   - Make a List
   - Eliminate Possibilities
   - Solve an equation
   - Look for a pattern
   - Draw a Picture
   - Solve a Simpler Problem
   - Work backwards
   - Use a formula
3. Carry out the Plan
4. Look back = check your answer

Rules of the Game

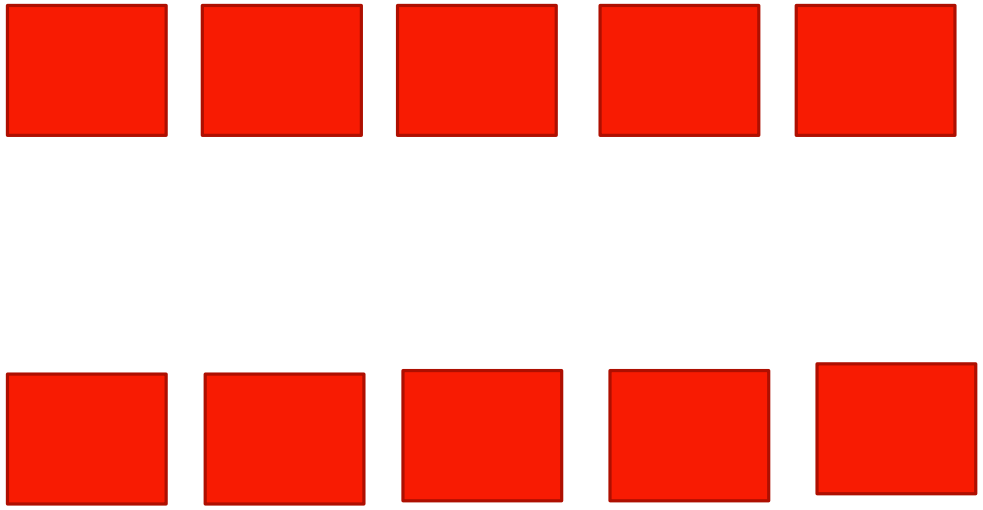
* Two players alternate turns
* 10 objects
* Each turn a player must take either
  1 or 2 objects
*The player with the last object loses and
  is “poisoned”

"If you can't solve a problem, then there is an easier problem you can solve: find it." Polya, G. 1945

- Solve a simpler problem
  - Start with 1 object, then 2, 3, and so on
- Make a list
  - T chart
- Draw a picture
- Use a formula

# Objects	Winner
1	Player 2
2	Player 1
3	Player 1
4	Player 2
5	Player 1
6	Player 1
7	Player 2
8	Player 1
9	Player 1
10	Player 2

Draw a Picture



Modular Arithmetic

- When we divide two integers we have this equation:
- A/B = Q remainder R
- A is the dividend
- B is the divisor
- Q is the quotient
- R is the remainder
- Sometimes, we are only interested in what the remainder is. For these cases there is an operator called the modulo operator (abbreviated as mod).
- Using the same A, B, Q, and R as above, we would have: A mod B=R
- We would say this as A modulo B is equal to R. Where B is referred to as the modulus.

Observe what happens when we increment numbers by one and then divide them by 3.

0/3 = 0 remainder 0	$0 \equiv 0 \bmod 3$
1/3 = 0 remainder 1	$1 \equiv 1 \bmod 3$
2/3 = 0 remainder 2	$2 \equiv 2 \bmod 3$
3/3 = 1 remainder 0	$3 \equiv 0 \bmod 3$
4/3 = 1 remainder 1	$4 \equiv 1 \bmod 3$
5/3 = 1 remainder 2	$5 \equiv 2 \bmod 3$
6/3 = 2 remainder 0	$6 \equiv 0 \bmod 3$
7/3 = 2 remainder 1	$7 \equiv 1 \bmod 3$
8/3 = 2 remainder 2	$8 \equiv 2 \bmod 3$
9/3 = 3 remainder 0	$9 \equiv 0 \bmod 3$

The remainders start at 0 and increases by 1 each time, until the number reaches one less than the number we are dividing by. After that, the sequence repeats.

A Strategy to Win

- With 10 objects, Player 2 should be able to win regardless of what Player 1 does
  - Player 1 chooses 1 object → Player 2 chooses 2 objects
  - Player 1 chooses 2 objects → Player 2 chooses 1 object

Other Variances

- Total # of objects –
  - ex. 67 objects
    - 67 mod 3 = 22 remainder 1
  - 4,324 objects – would the strategy be the same? Why? Or Why Not?

Thank you!

Mindset Quiz

Place a check in the column that identifies the extent to which you agree or disagree with the statement.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. Your intelligence is something very basic about you that you can't change very much.				
2. No matter how much intelligence you have, you can always change it quite a bit.				
3. You can always substantially change how intelligent you are.				
4. You are a certain kind of person, and there is not much that can be done to really change that.				
5. You can always change basic things about the kind of person you are.				
6. Music talent can be learned by anyone.				
7. Only a few people will be truly good at sports – you have to be "born with it."				
8. Math is much easier to learn if you are male or maybe come from a culture who values math.				
9. The harder you work at something, the better you will be at it.				
10. No matter what kind of person you are, you can always change substantially.				
11. Trying new things is stressful for me and I avoid it.				
12. Some people are good and kind, and some are not – it's not often that people change.				
13. I appreciate when parents, coaches, teachers give me feedback about my performance.				
14. I often get angry when I get feedback about my performance.				
15. All human beings without a brain injury or birth defect are capable of the same amount of learning.				
16. You can learn new things, but you can't really change how intelligent you are.				
17. You can do things differently, but the important parts of who you are can't really be changed.				
18. Human beings are basically good, but sometimes make terrible decisions.				
19. An important reason why I do my school work is that I like to learn new things.				
20. Truly smart people do not need to try hard.				

Circle the number in the box that matches each answer.

	Strongly Agree	Agree	Disagree	Strongly Disagree
1. ability mindset – fixed	0	1	2	3
2. ability mindset – growth	3	2	1	0
3. ability mindset – growth	3	2	1	0
4. personality/character mindset – fixed	0	1	2	3
5. personality/character mindset – growth	3	2	1	0
6. ability mindset – growth	3	2	1	0
7. ability mindset – fixed	0	1	2	3
8. ability mindset – fixed	0	1	2	3
9. ability mindset – growth	3	2	1	0
10. personality/character mindset - growth	3	2	1	0
11. ability mindset – fixed	0	1	2	3
12. personality/character mindset – fixed	0	1	2	3
13. ability mindset –growth	3	2	1	0
14. ability mindset – fixed	0	1	2	3
15. ability mindset – growth	3	2	1	0
16. ability mindset – fixed	0	1	2	3
17. personality/character mindset – fixed	0	1	2	3
18. personality/character mindset –growth	3	2	1	0
19. ability mindset – growth	3	2	1	0
20. ability mindset – fixed	0	1	2	3
Total				
Grand Total				