

Teach Anything to Anyone

Even Your Development Team

github.com/jcasimir/teachAnything

Jeff Casimir / @j3





So one day we're at...

RUBYCONF 
◆ IX SF
2009 NOV 19-21

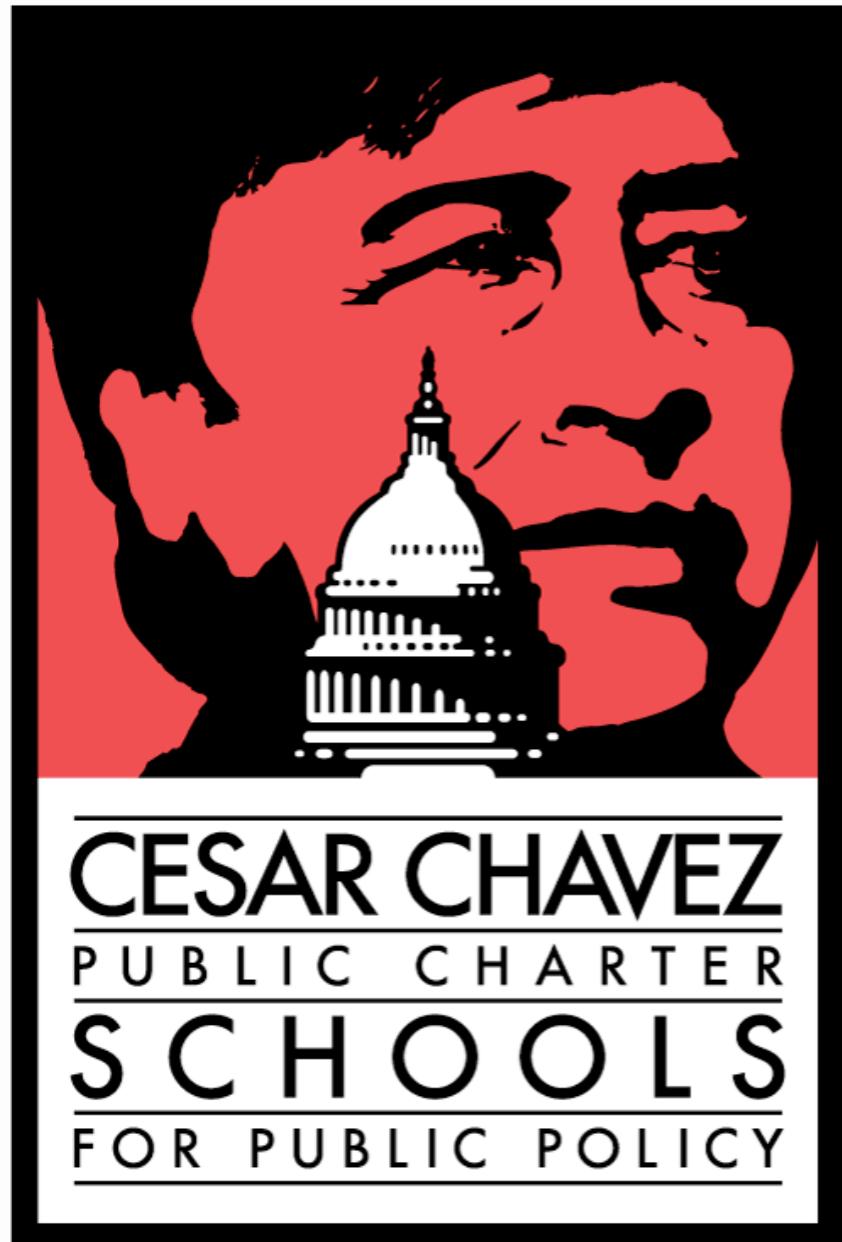
...and my friend says...

“Can you teach me
how to teach?”

And I surprised him with...

“Actually, yeah.”

TEACHFORAMERICA



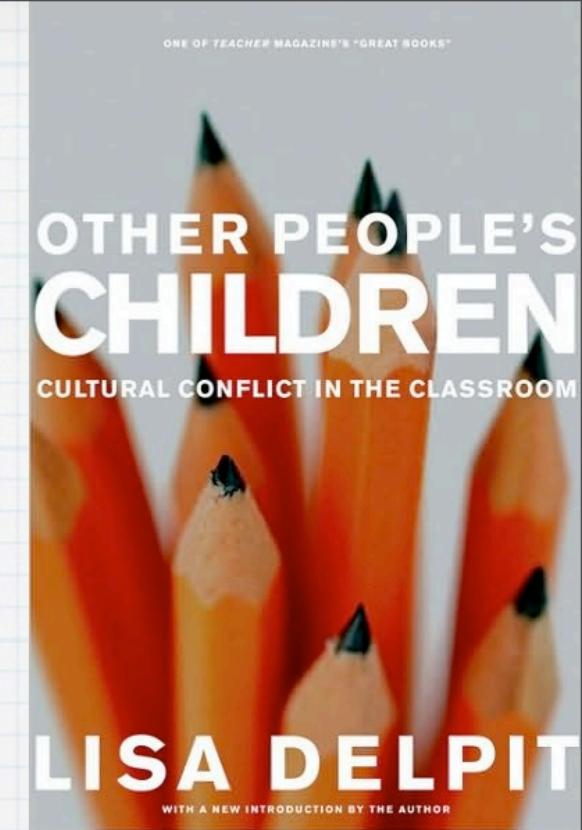
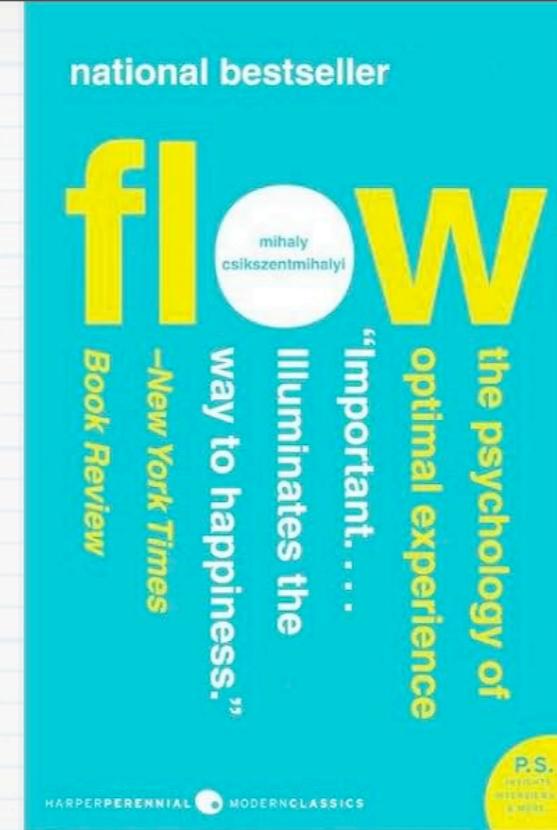
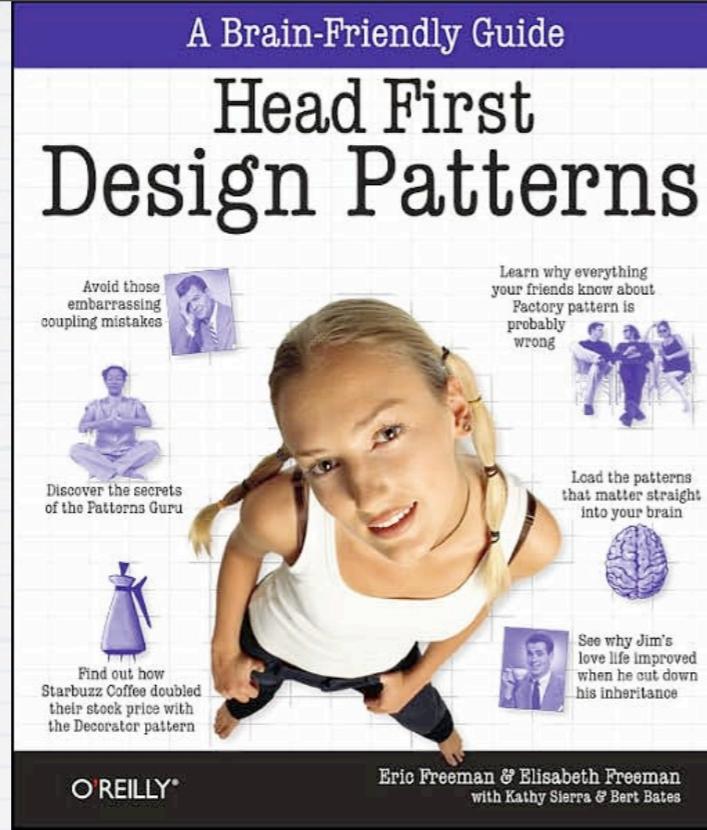
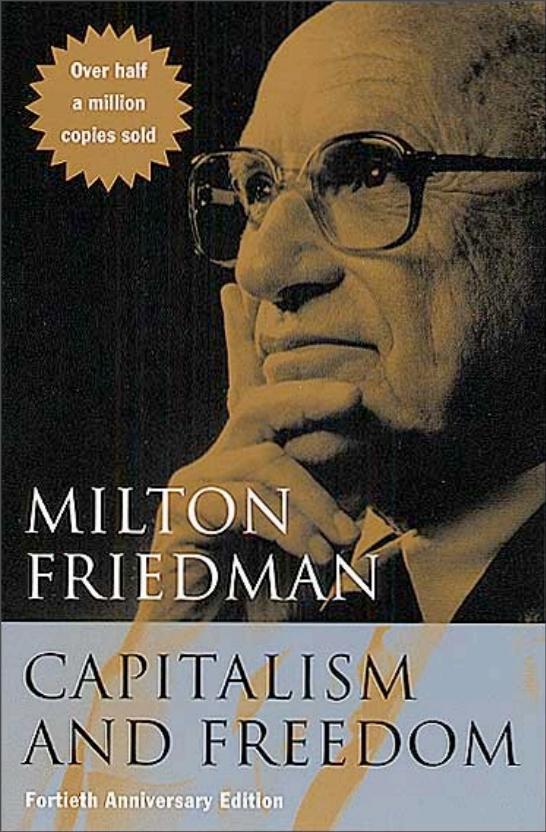


Maya Angelou

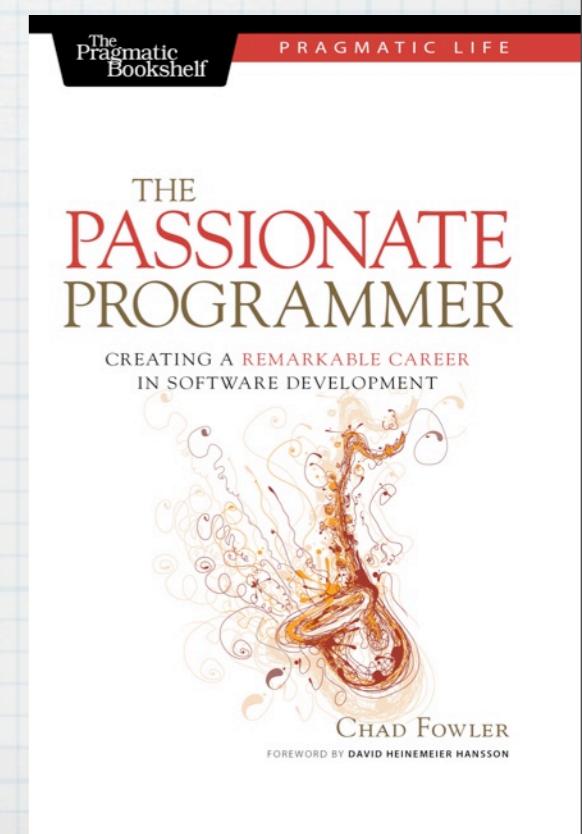
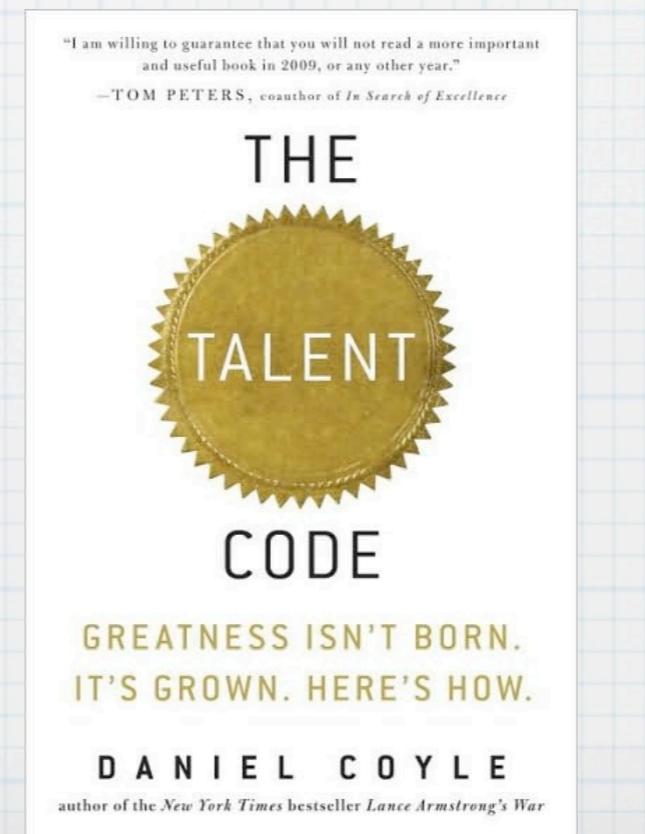
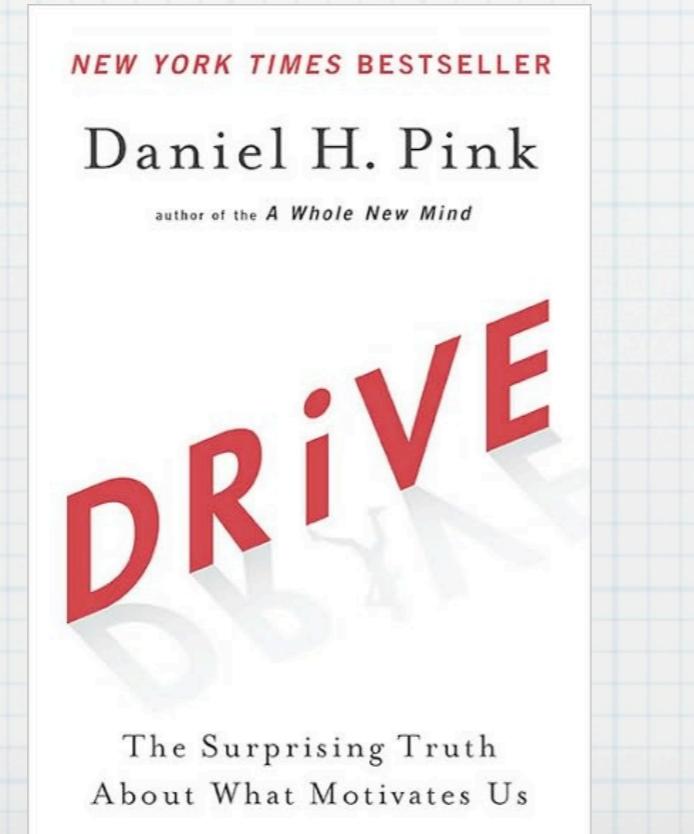
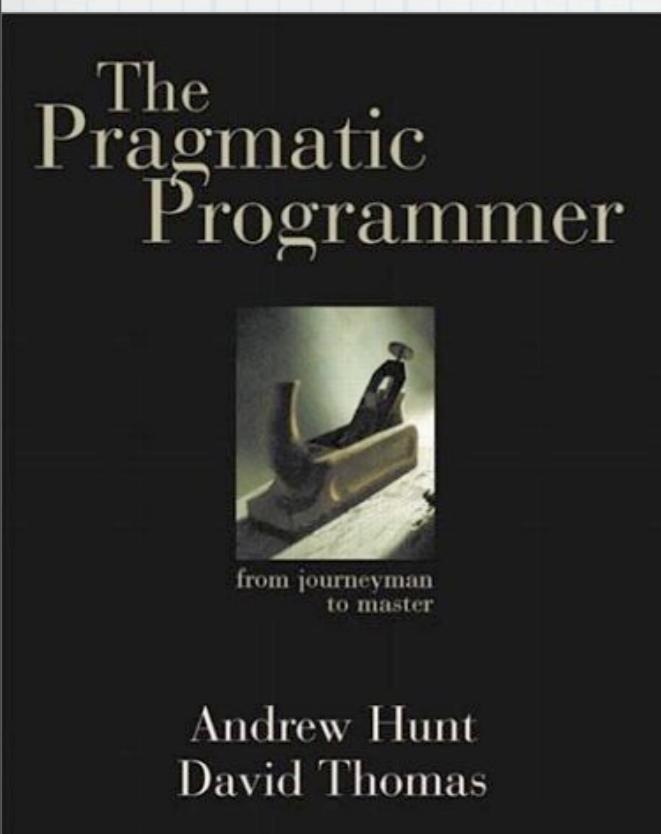
PUBLIC CHARTER SCHOOL
MIDDLE SCHOOL CAMPUS

So I'm not just
making this up.

A Theory



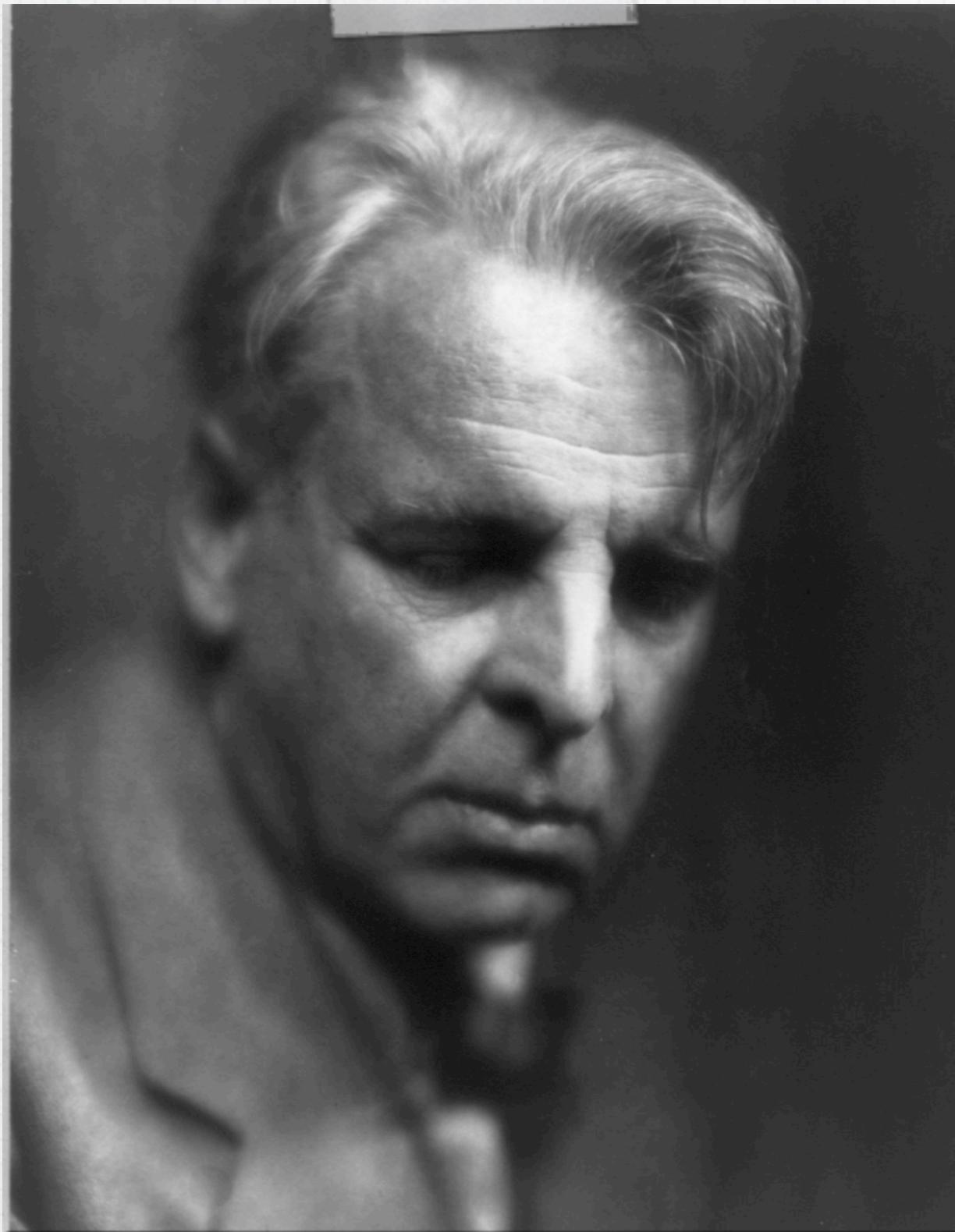
There are only a few good ideas.



Bad news:

You already know
most of this

Because there are only so many good ideas.



Education is not the
filling of a pail...

but the lighting
of a fire.

- William Butler Yeats

A Simple Goal

If you only remember
one thing
from this session,
it should be this:

I do

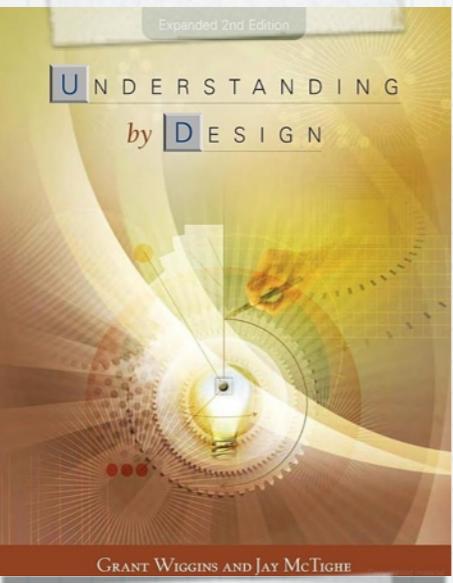
We do

You do



Prerequisites

Maslow's Hierarchy of Needs



Planning

Understanding by Design



Execution

Gradual Release of Responsibility



Prerequisites

Maslow's Hierarchy of Needs



Prerequisites

Maslow's Hierarchy of Needs

“To the man who only has a hammer,
everything he encounters begins
to look like a nail.”

– Abraham Maslow
(1908 – 1970)



Prerequisites

Maslow's Hierarchy of Needs

“All the evidence that we have indicates that...
in practically every human being...
there is an active will toward **health**,
an impulse towards growth,
or towards the **actualization**.”

– **Abraham Maslow**
(1908 – 1970)



Prerequisites

Maslow's Hierarchy of Needs

Maslow studied basic human needs and created a hierarchy to explain their relationship



Prerequisites

Maslow's Hierarchy of Needs

Food, Water, Breath

— Physiological



Prerequisites

Maslow's Hierarchy of Needs

Health, Personal Security

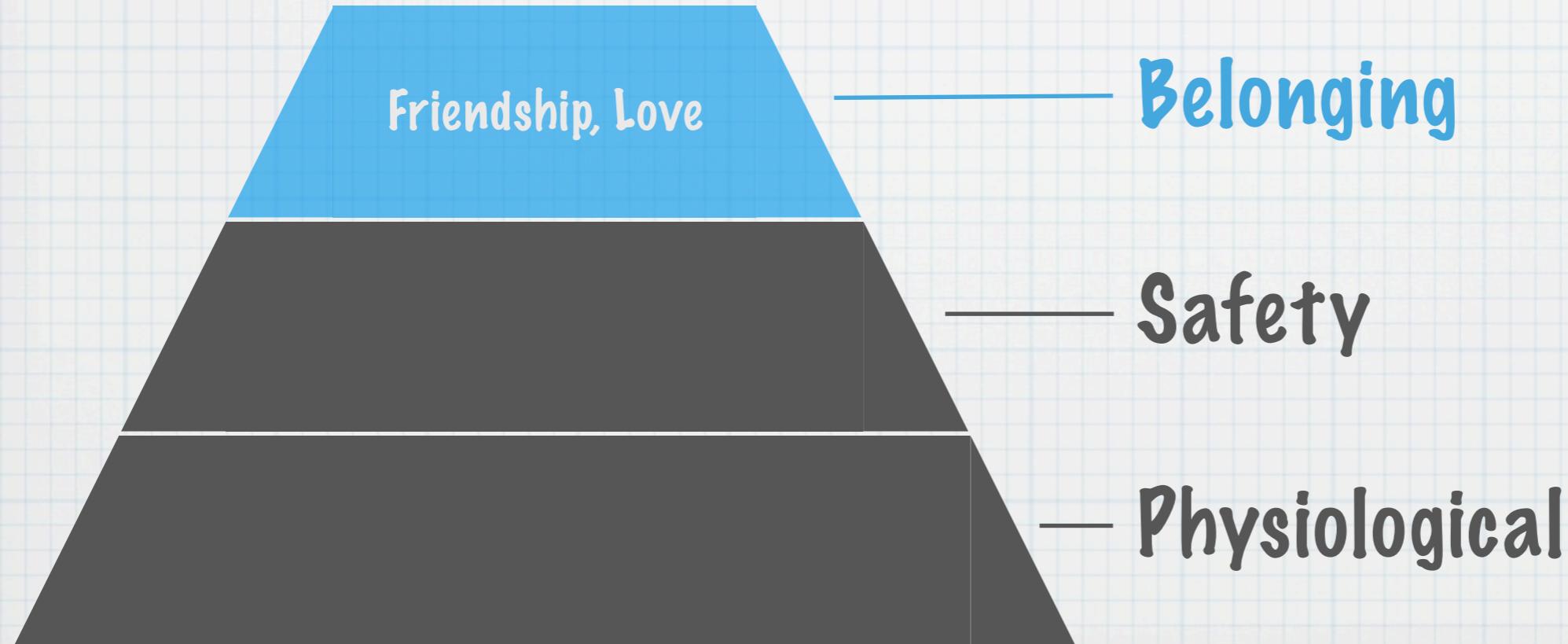
Safety

— Physiological



Prerequisites

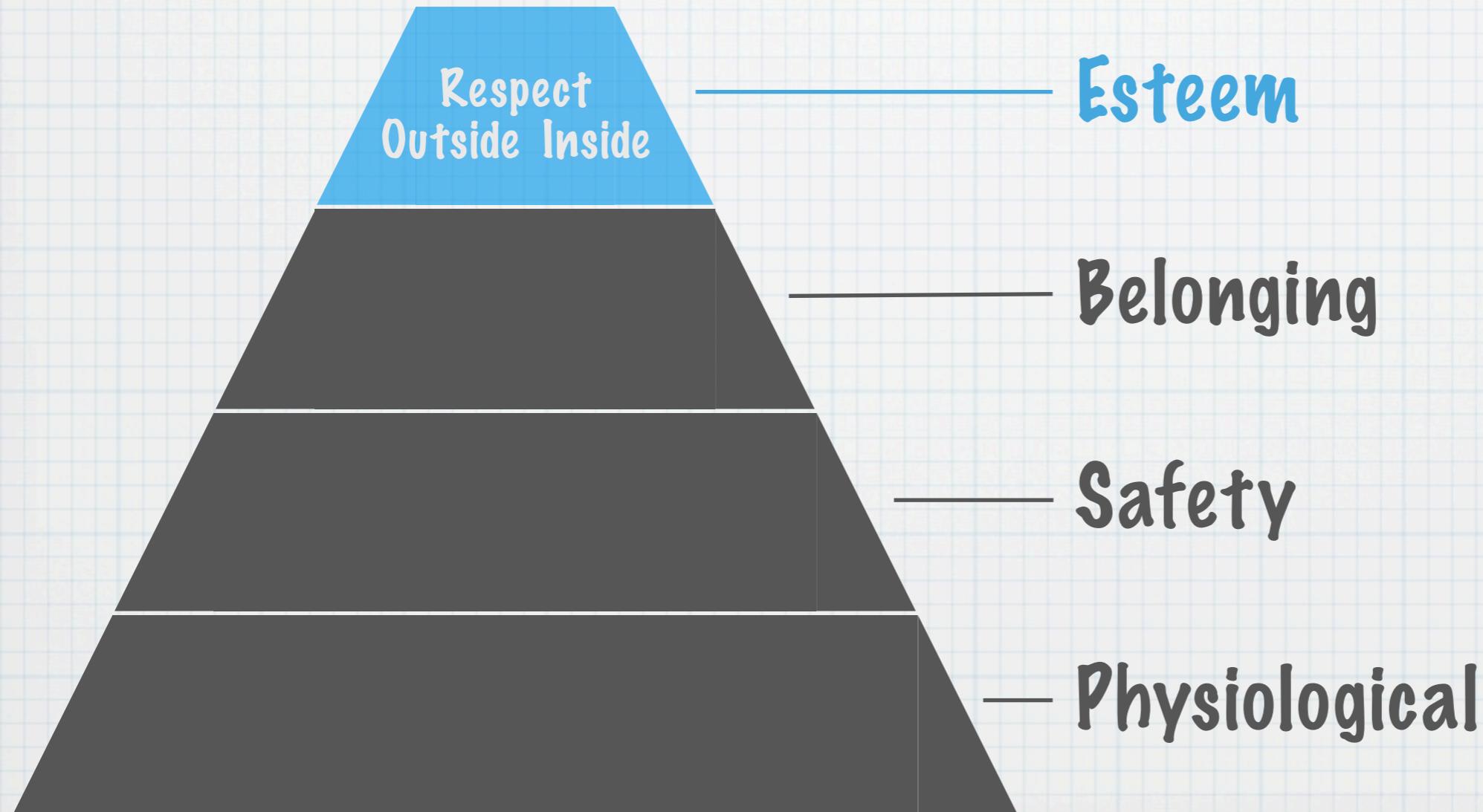
Maslow's Hierarchy of Needs





Prerequisites

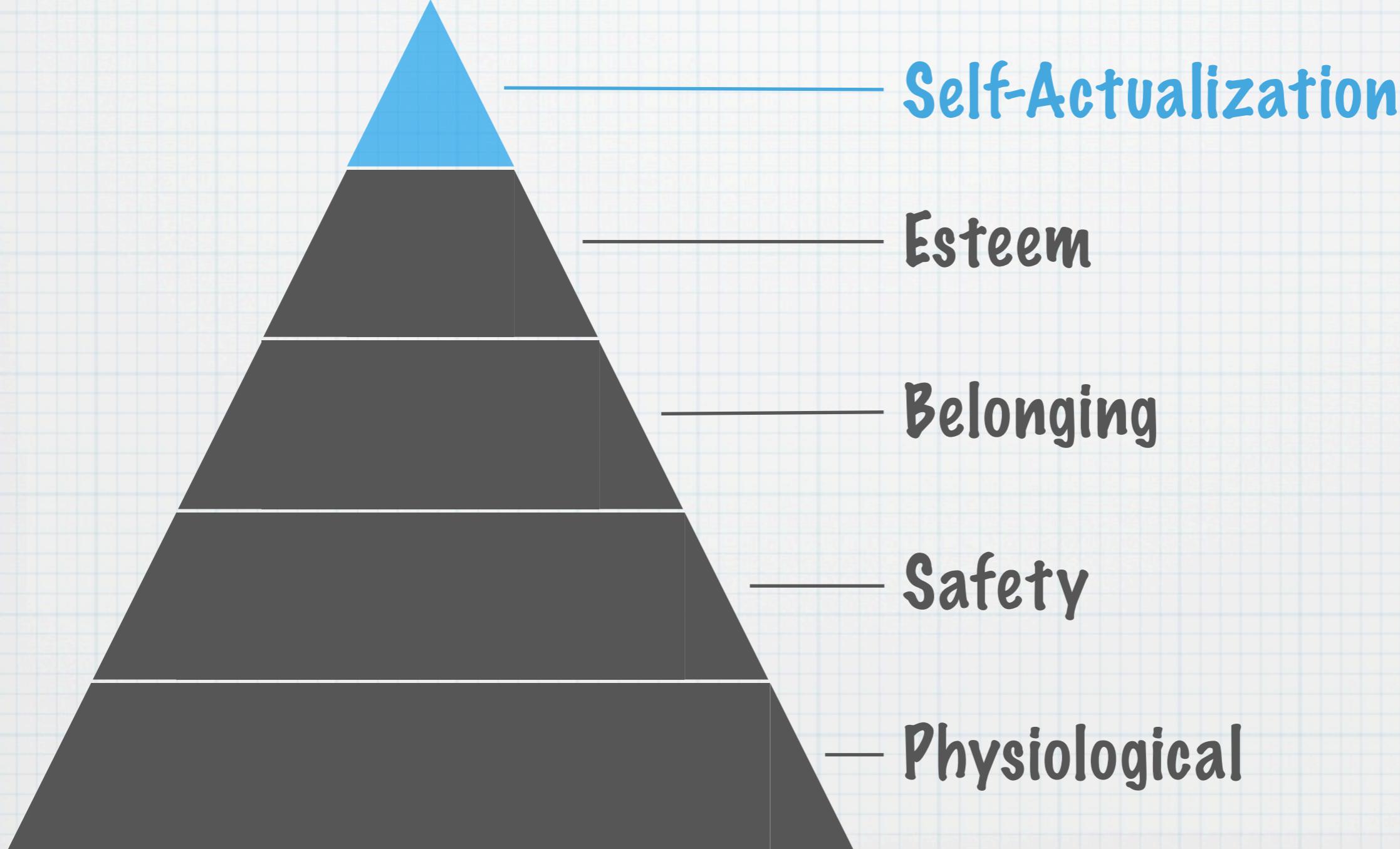
Maslow's Hierarchy of Needs





Prerequisites

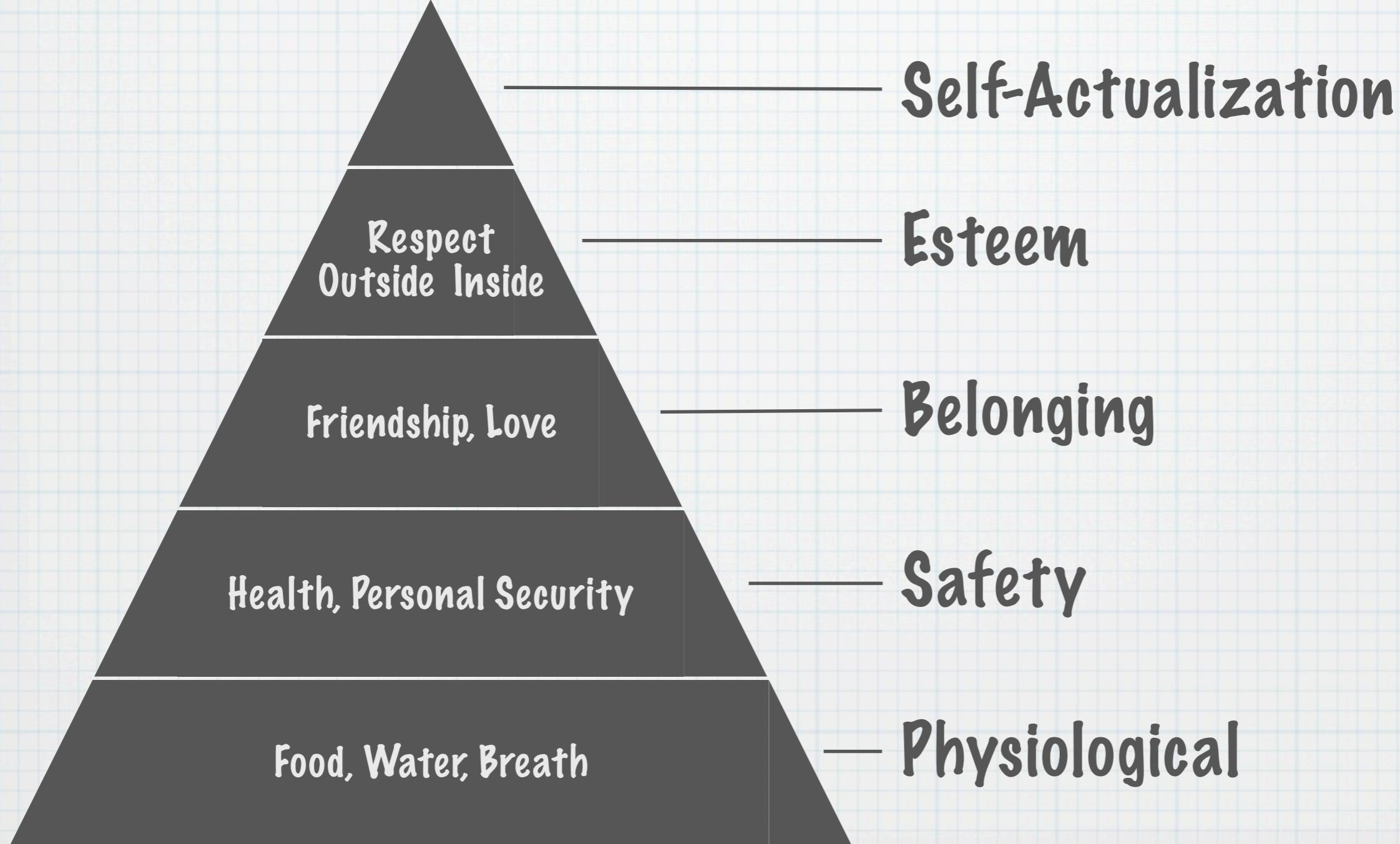
Maslow's Hierarchy of Needs

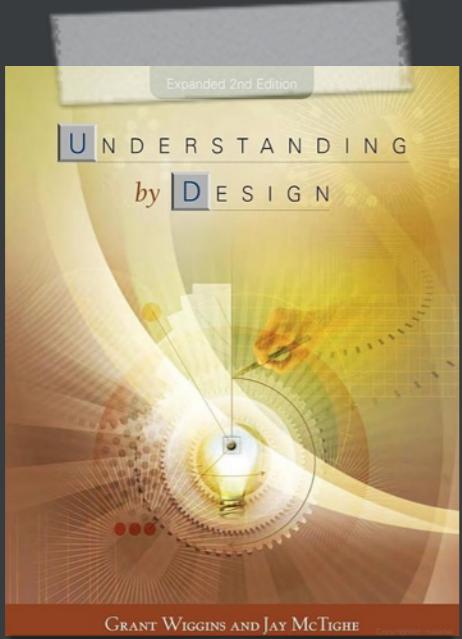




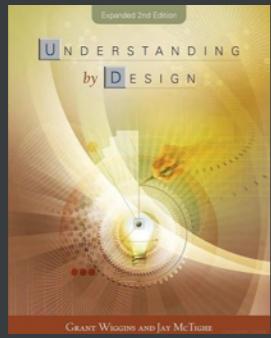
Prerequisites

Maslow's Hierarchy of Needs





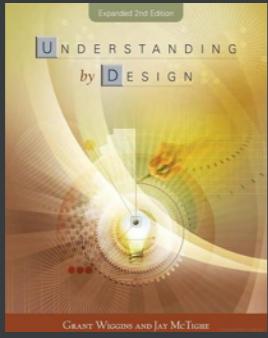
Planning Understanding by Design



Planning

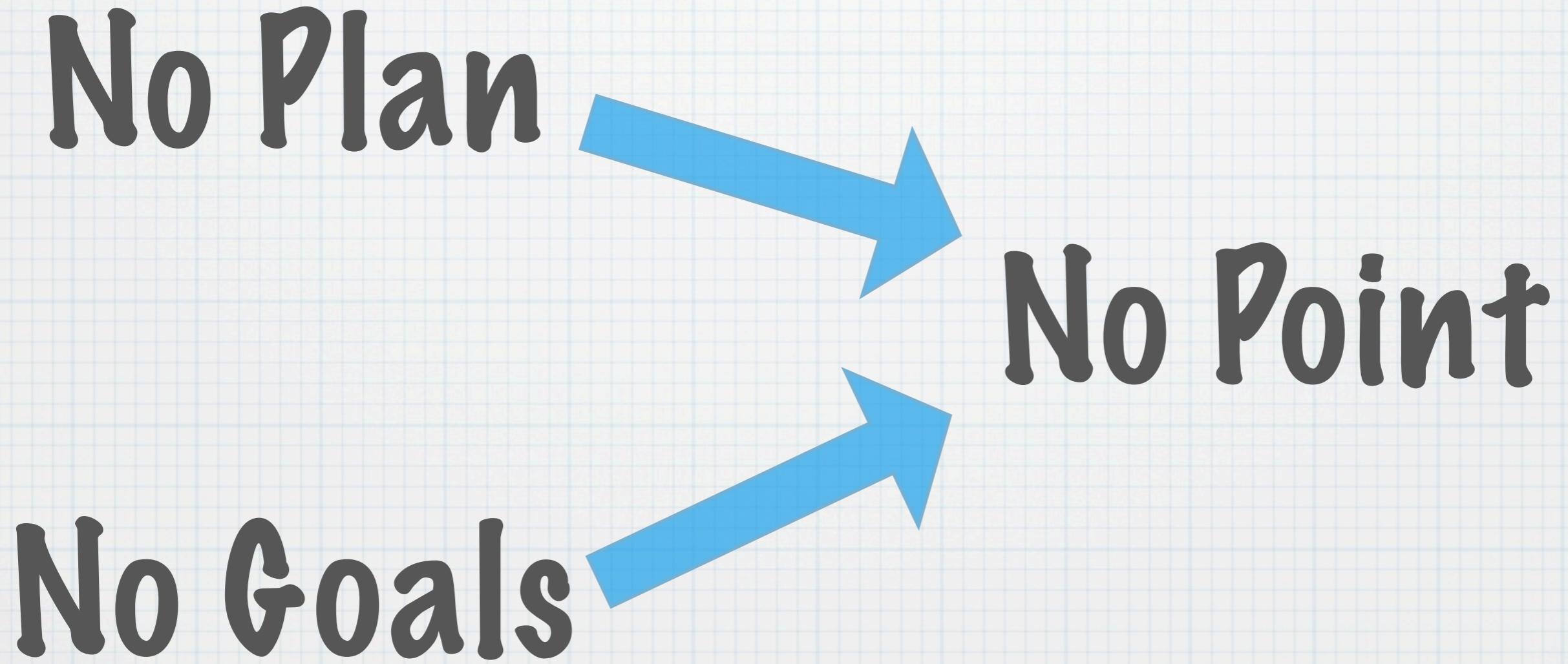
Understanding by Design

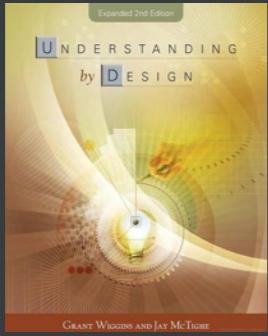




Planning

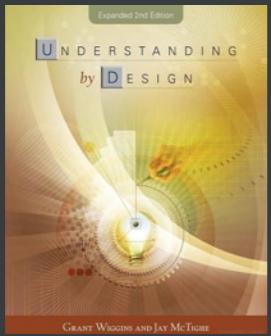
Understanding by Design





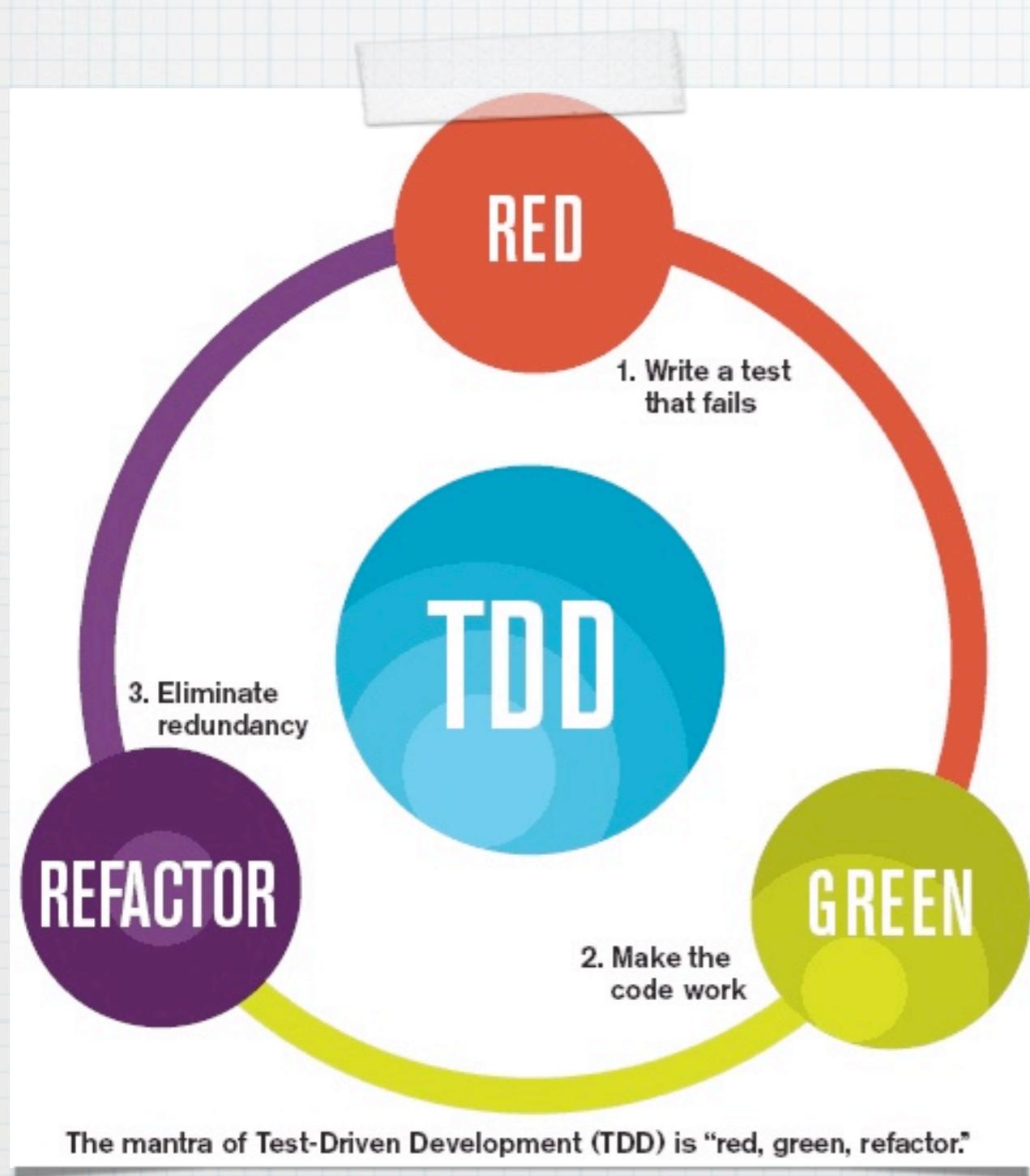
Planning Understanding by Design

Without a plan
and a goal
you can never finish.

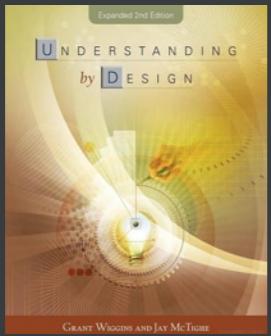


Planning

Understanding by Design

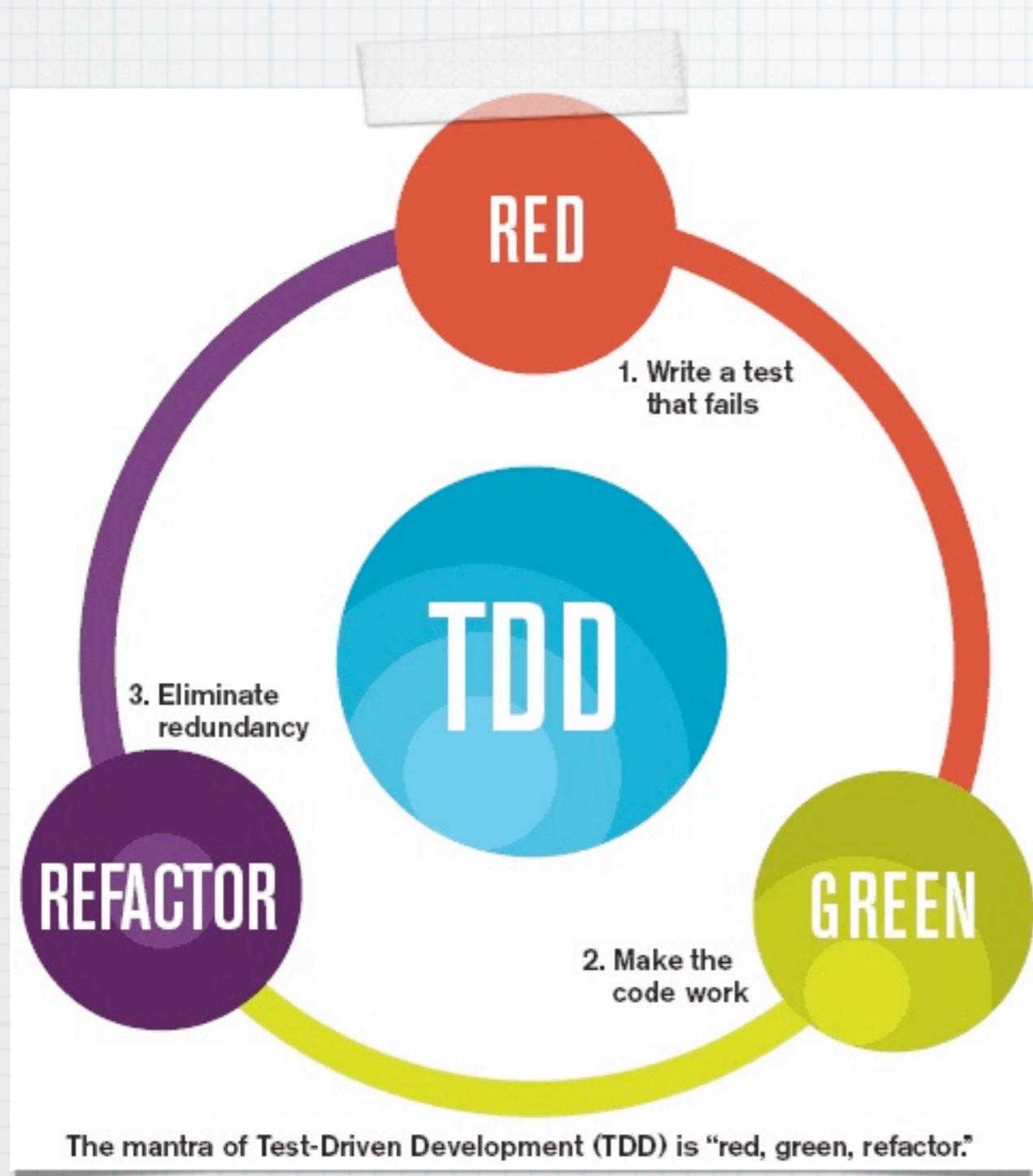


TDD is built
on defining
goals

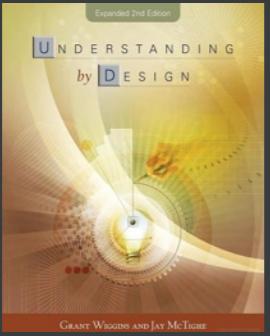


Planning

Understanding by Design



...and
achieving
just that
goal

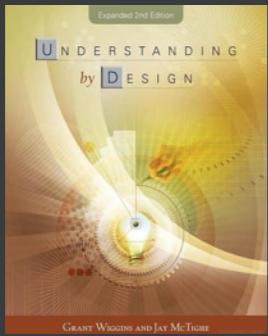


Planning

Understanding by Design

Or we could
just go
with
no plan...

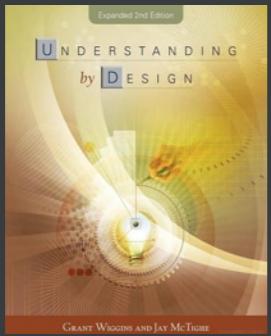




Planning Understanding by Design

Like coders write tests,
teachers write
Learning Goals

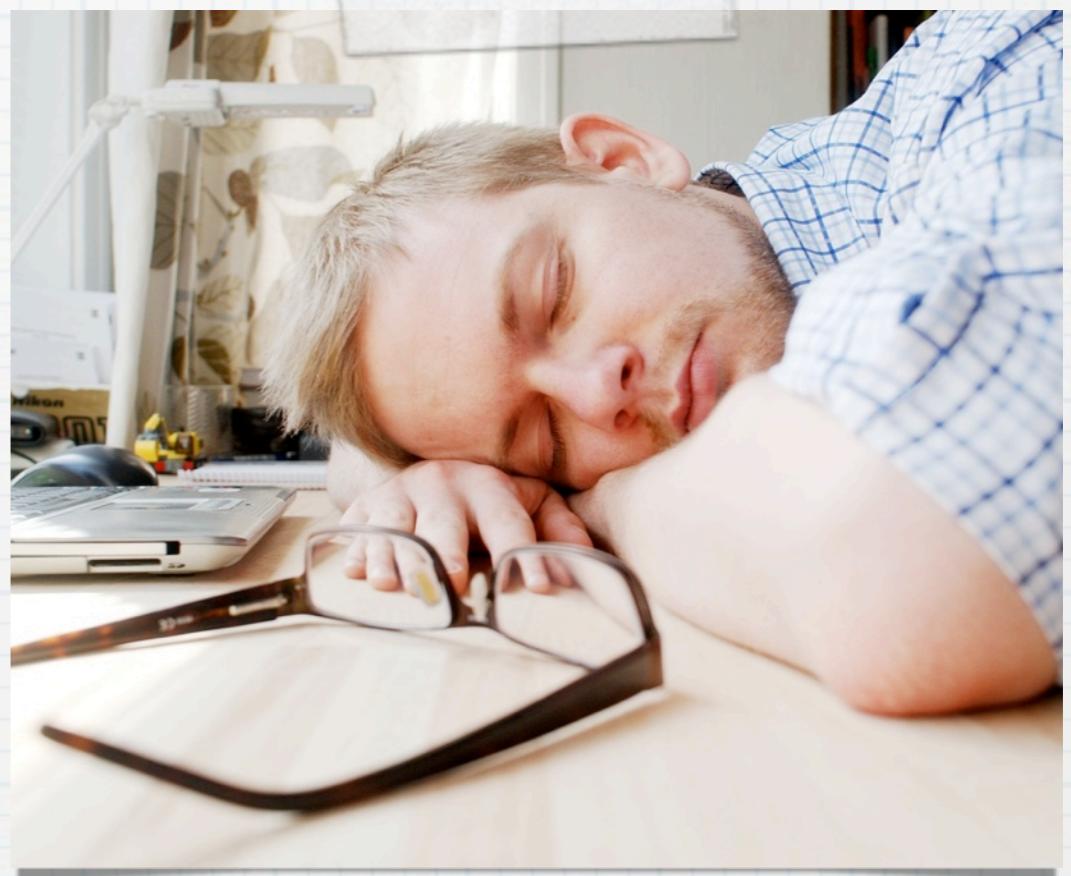
Learning Goals



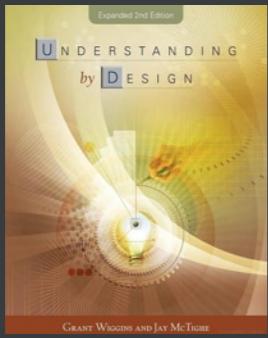
Planning

Understanding by Design

A strong learning goal answers this question:

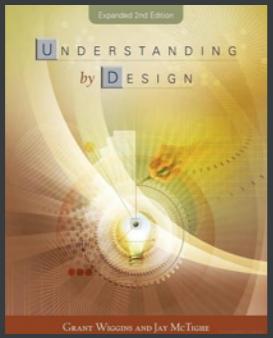


What is the point?



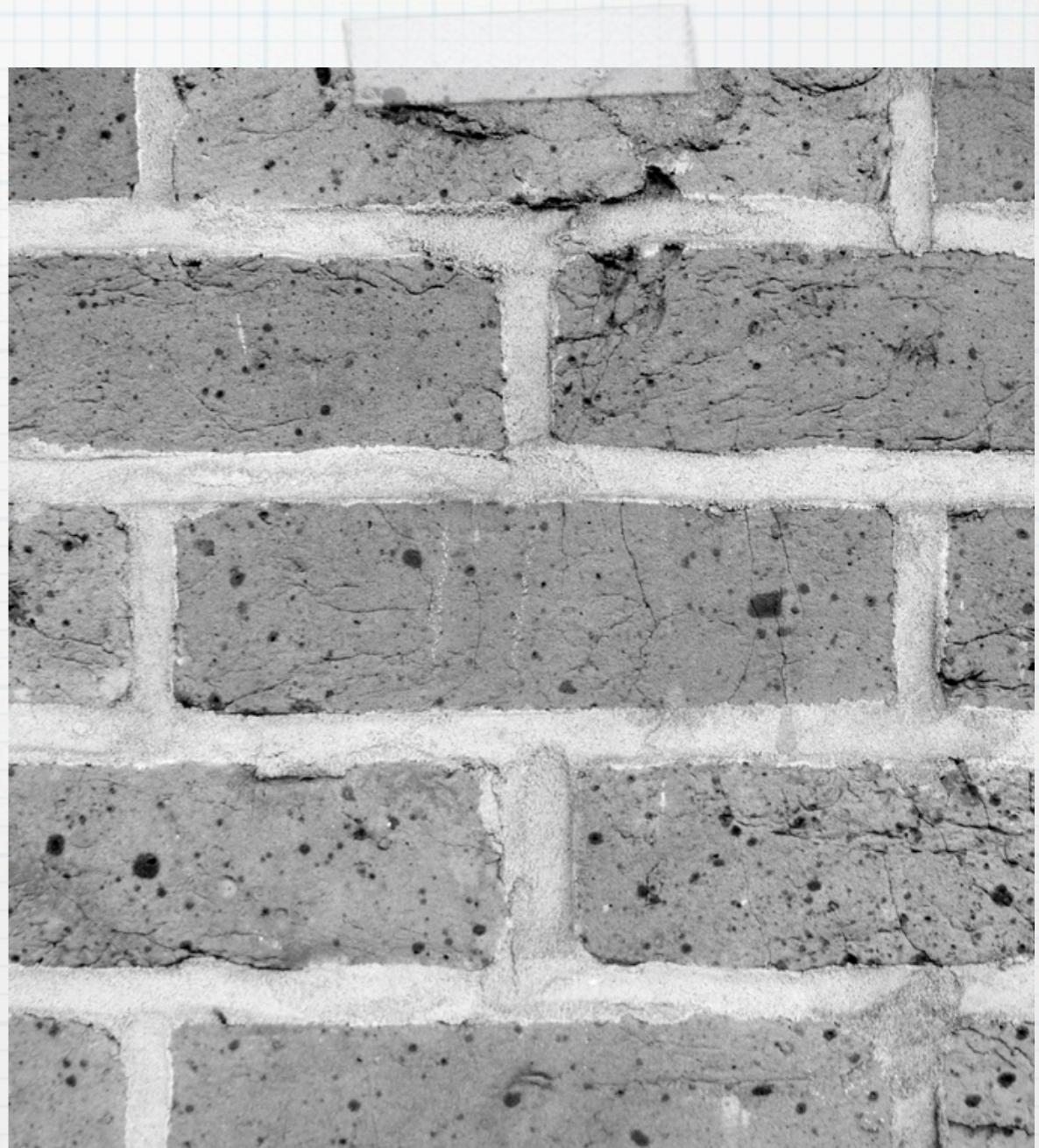
Planning Understanding by Design

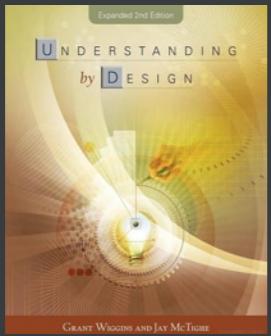
In software development,
you create **use cases** or
integration tests...



Planning Understanding by Design

which are
big goals
made up of
small goals

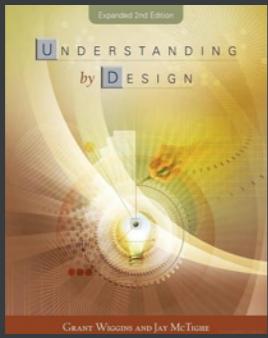




Planning Understanding by Design

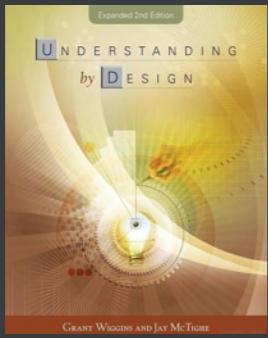


In teaching,
we do the
same thing



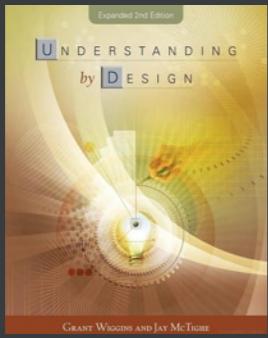
Planning Understanding by Design

A strong learning goal is
learner-centric,
not process-centric.



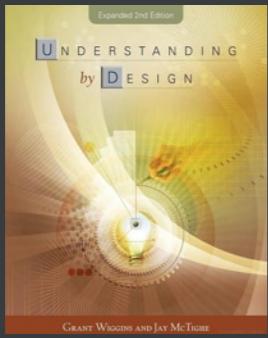
Planning Understanding by Design

Process-Centric Goal:
Today we'll all **pass our**
African Geography quiz.



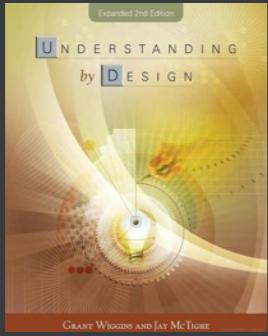
Planning Understanding by Design

Learner-Centric Goal:
Today you will demonstrate
mastery of African Geography.



Planning Understanding by Design

Strong learning goals focus
on skills and abilities.

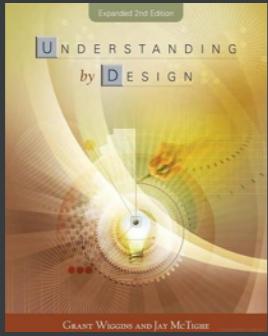


Planning

Understanding by Design

Strong learning goals use verbs like...

- demonstrate
- perform
- determine
- use
- practice
- express

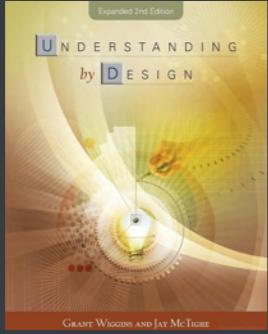


Planning

Understanding by Design

A strong
learning goal
should be...

- Specific
- Measurable
- Attainable
- Realistic
- Time-bound

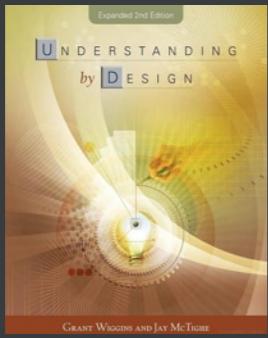


Planning Understanding by Design

Big Goal:

Demonstrate mastery of mountain locations in Asia





Planning

Understanding by Design

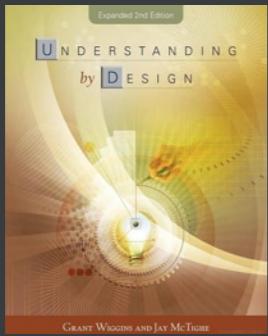
Small Goals:

Demonstrate mastery of mountain locations in...

- Japan
- China
- North Korea

- South Korea
- Taiwan
- Mongolia





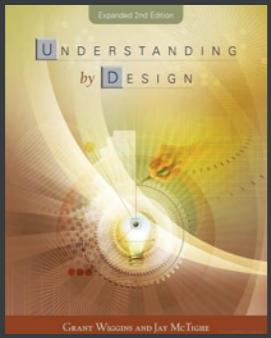
Planning

Understanding by Design

UBD Process

1. Establish the
Big Goal

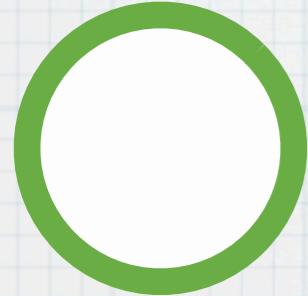




Planning

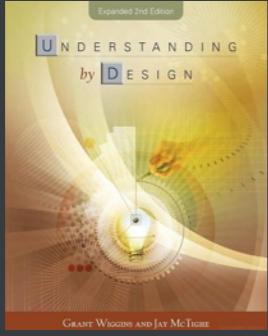
Understanding by Design

UBD Process



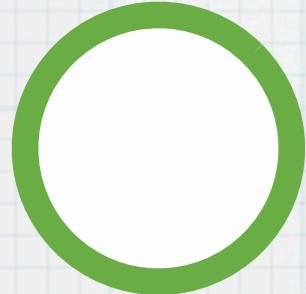
2. Determine the
Starting Point



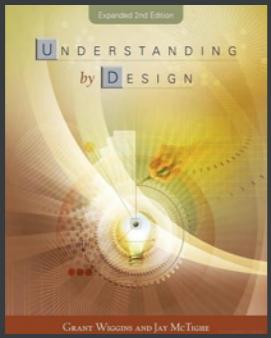


Planning Understanding by Design

UBD Process



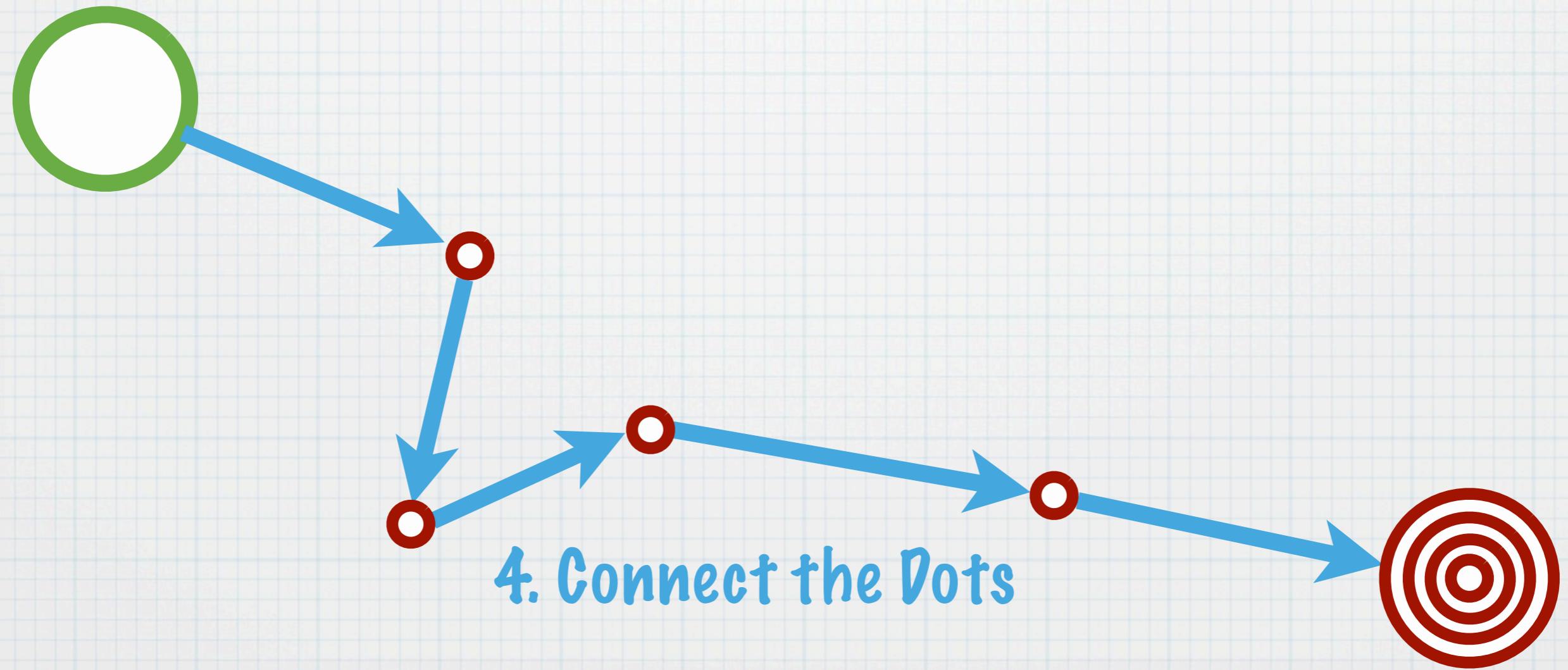
- 3. Plot small goals along the way
 -
 -
 -
 -

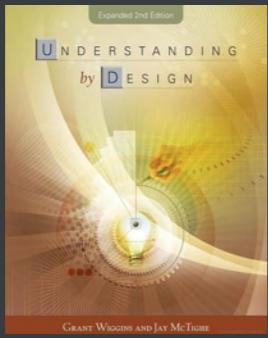


Planning

Understanding by Design

UBD Process





Planning

Understanding by Design

UBD Process



I do
We do
You do

Execution

Gradual Release of Responsibility

I do
We do
You do

Execution

Gradual Release of Responsibility



Prerequisites
Maslow's Hierarchy of Needs

I do
We do
You do

Execution

Gradual Release of Responsibility



Planning

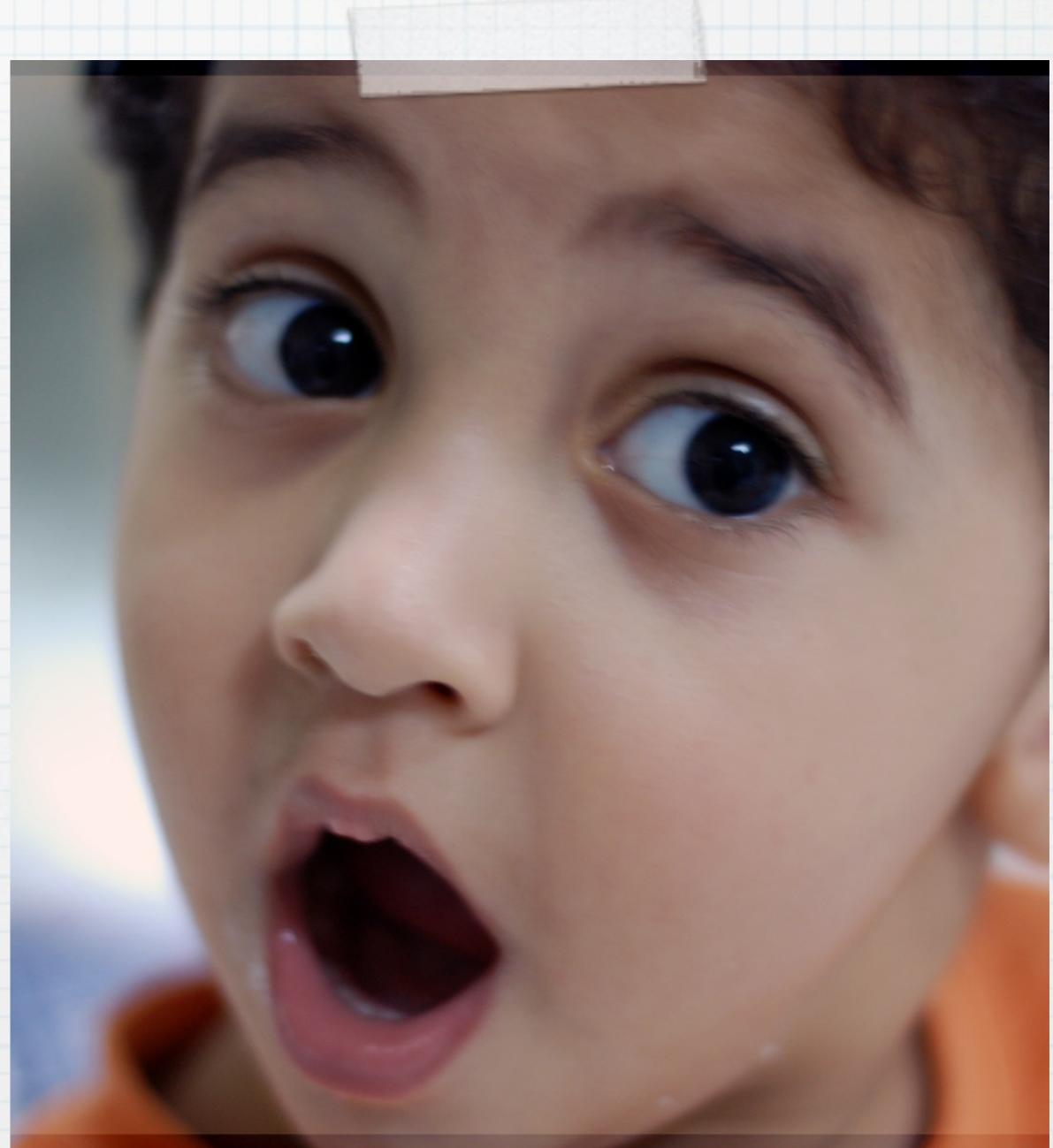
Understanding by Design

I do
We do
You do

Execution

Gradual Release of Responsibility

Now you have
to actually
teach!



I do
We do
You do

Execution

Gradual Release of Responsibility

Teaching is not new, but it used to be called apprenticeship



I do
We do
You do

Execution

Gradual Release of Responsibility

Good teaching
starts by
example

I do

I do
We do
You do

Execution

Gradual Release of Responsibility

Then do it
together

Like pair programming...

I talk, you drive

or

I drive, you talk

I do
We do

I do
We do
You do

Execution

Gradual Release of Responsibility

We do

This is the part that most people screw up!

I do
We do
You do

Execution

Gradual Release of Responsibility



It's called **Gradual Release of Responsibility** because of this crucial middle step.

I do
We do
You do

Execution

Gradual Release of Responsibility

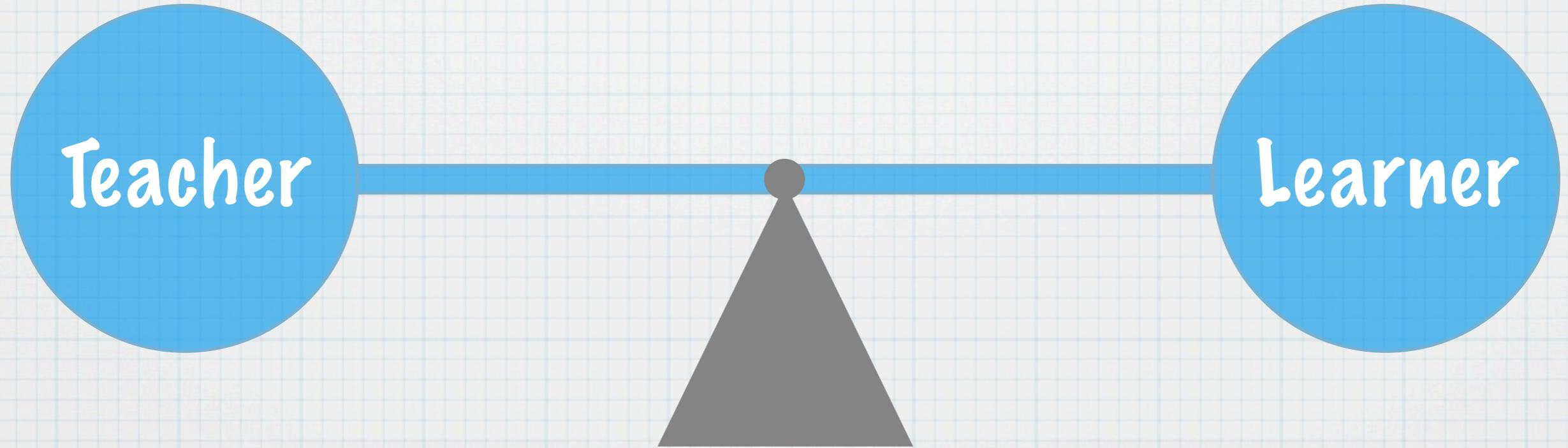
Then do it
on your own

I do
We do
You do

I do
We do
You do

Execution

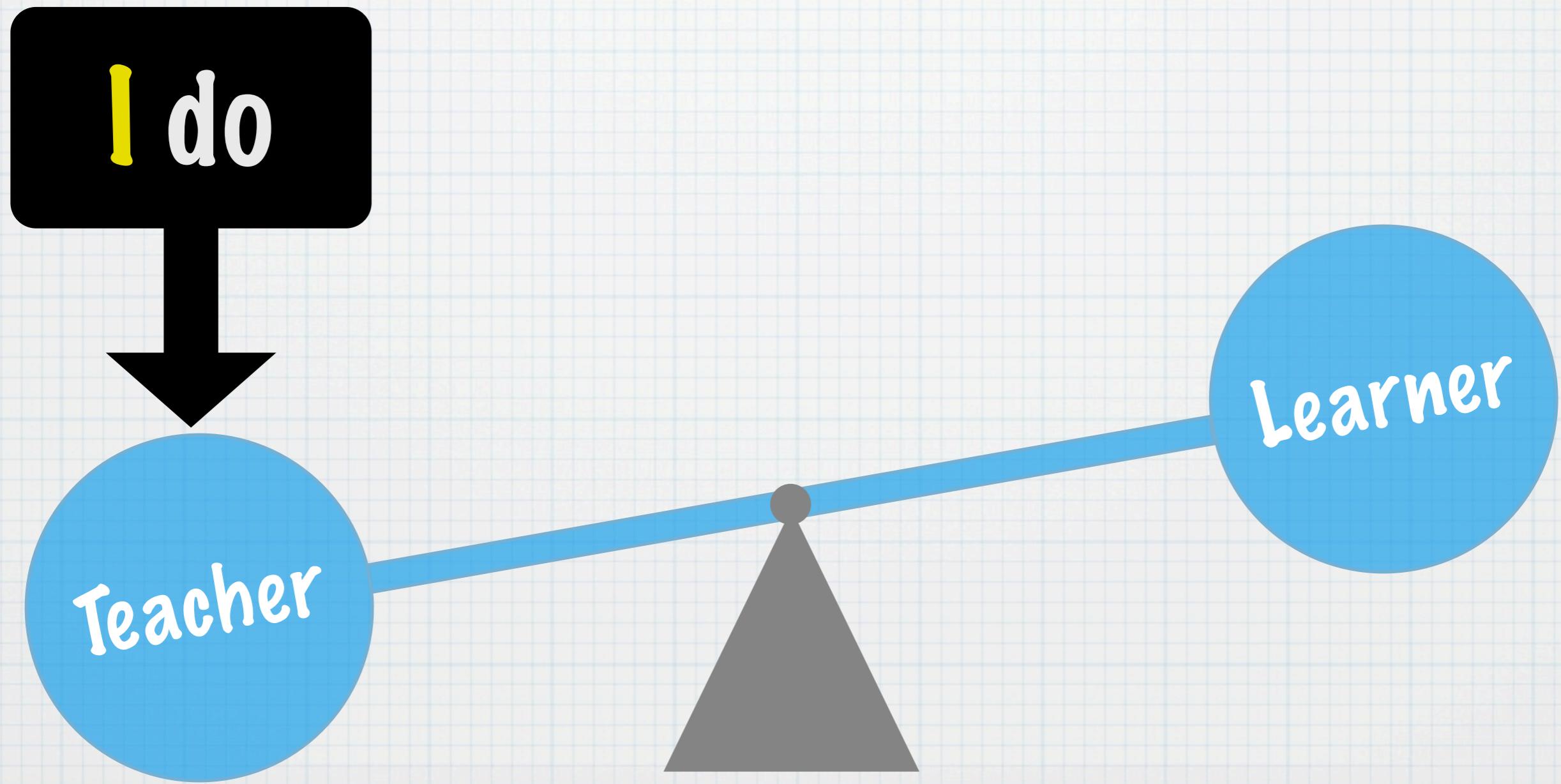
Gradual Release of Responsibility



I do
We do
You do

Execution

Gradual Release of Responsibility



I do
We do
You do

Execution

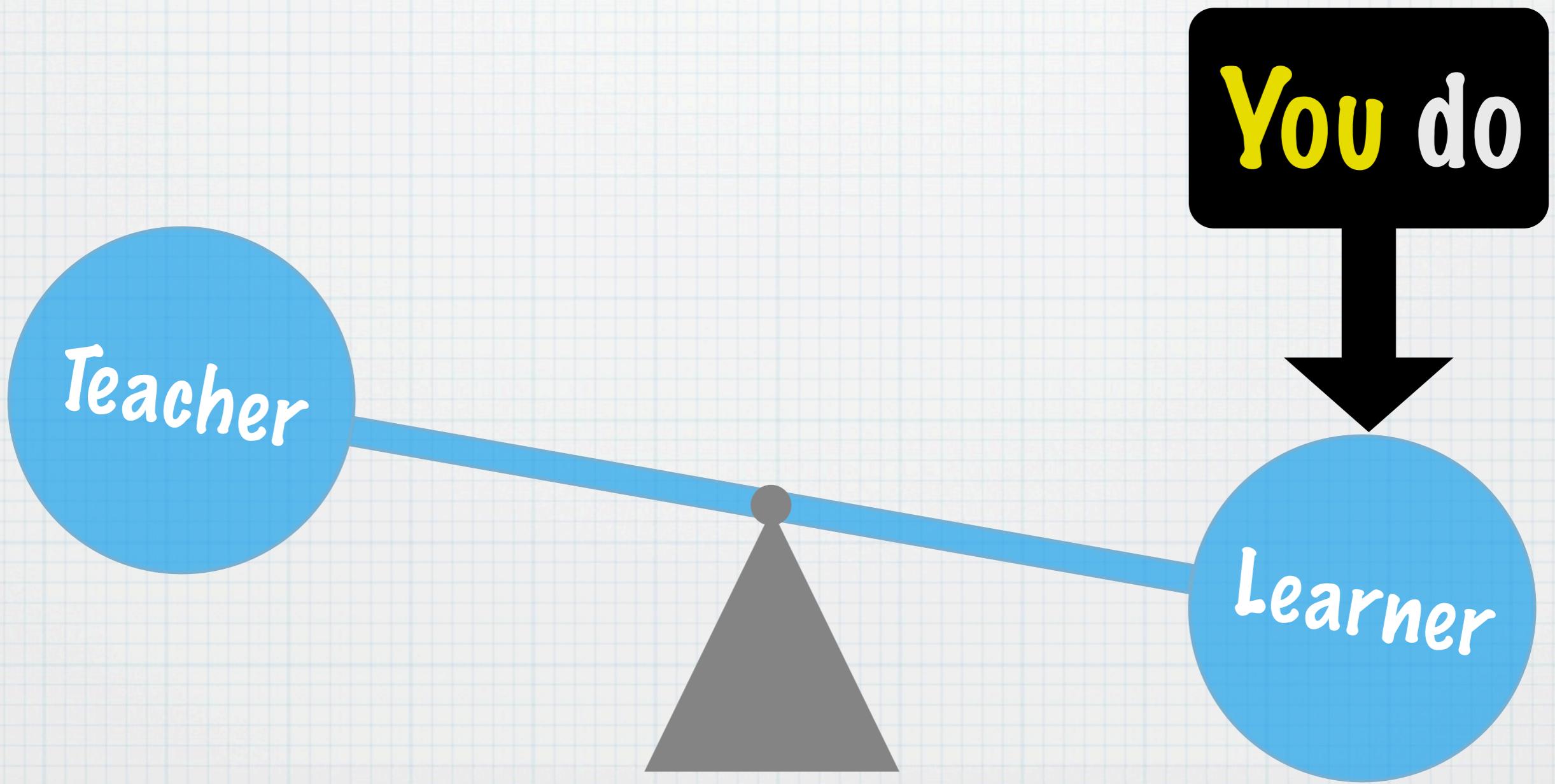
Gradual Release of Responsibility



I do
We do
You do

Execution

Gradual Release of Responsibility



I do
We do
You do

Execution

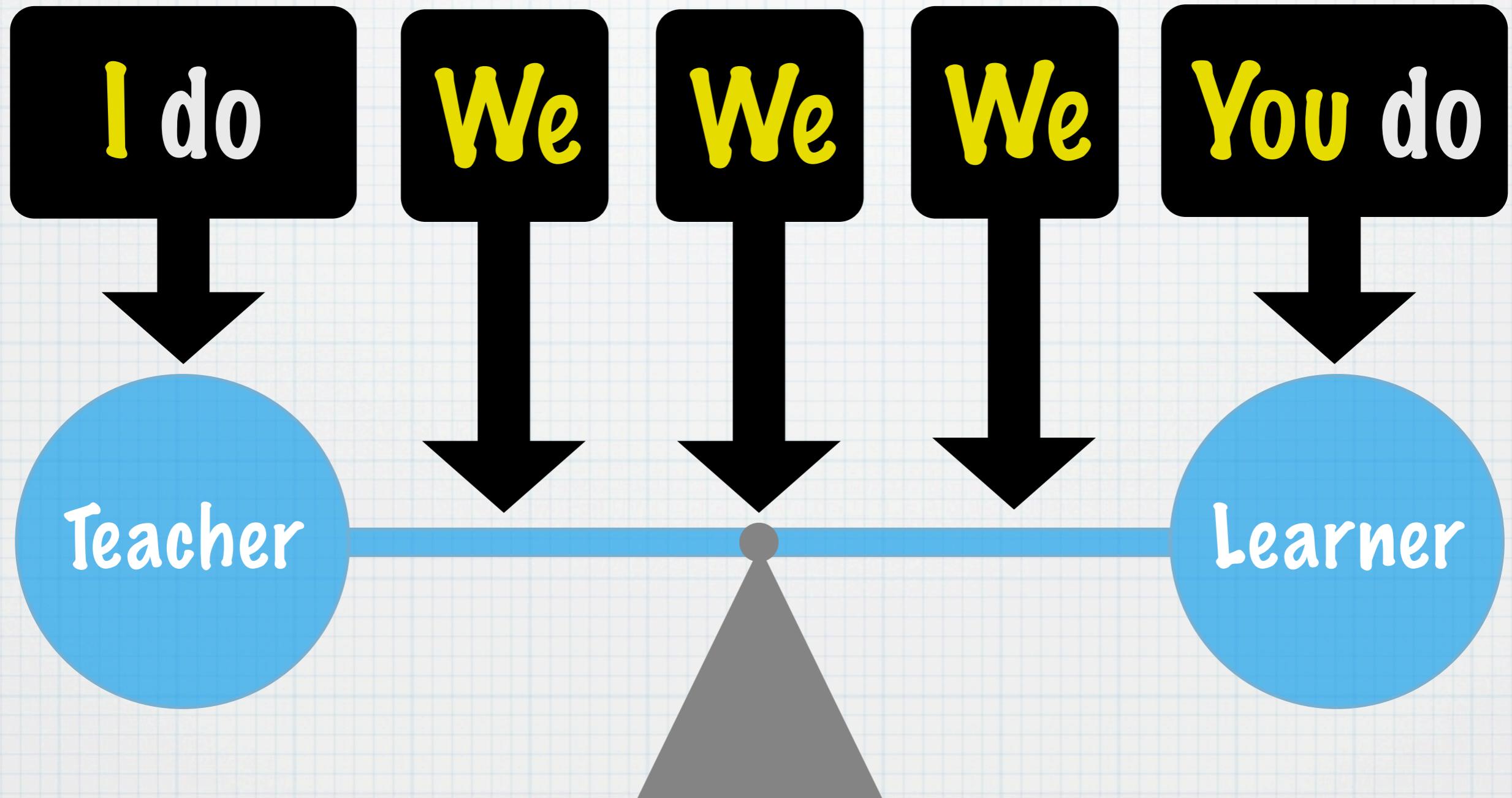
Gradual Release of Responsibility

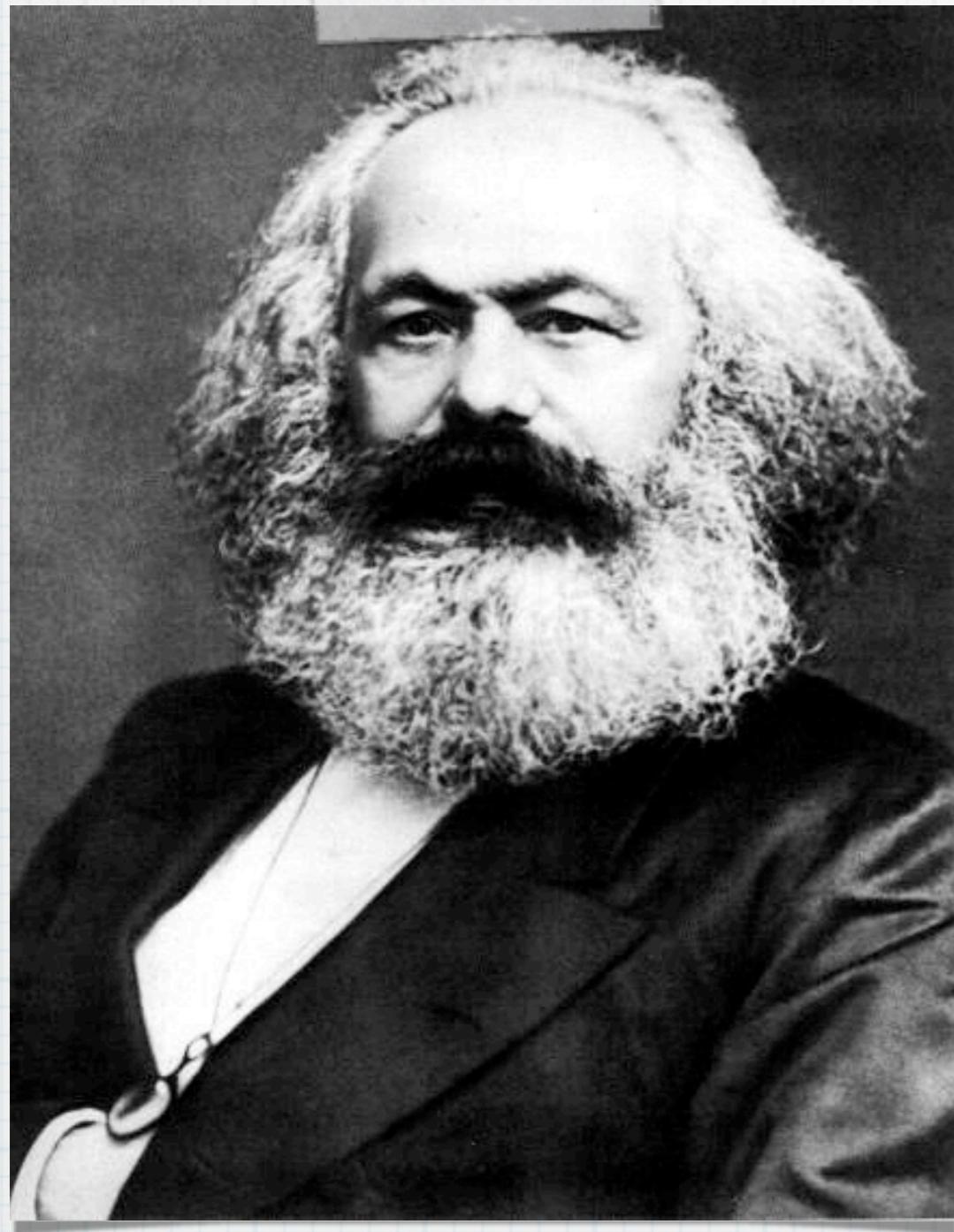


I do
We do
You do

Execution

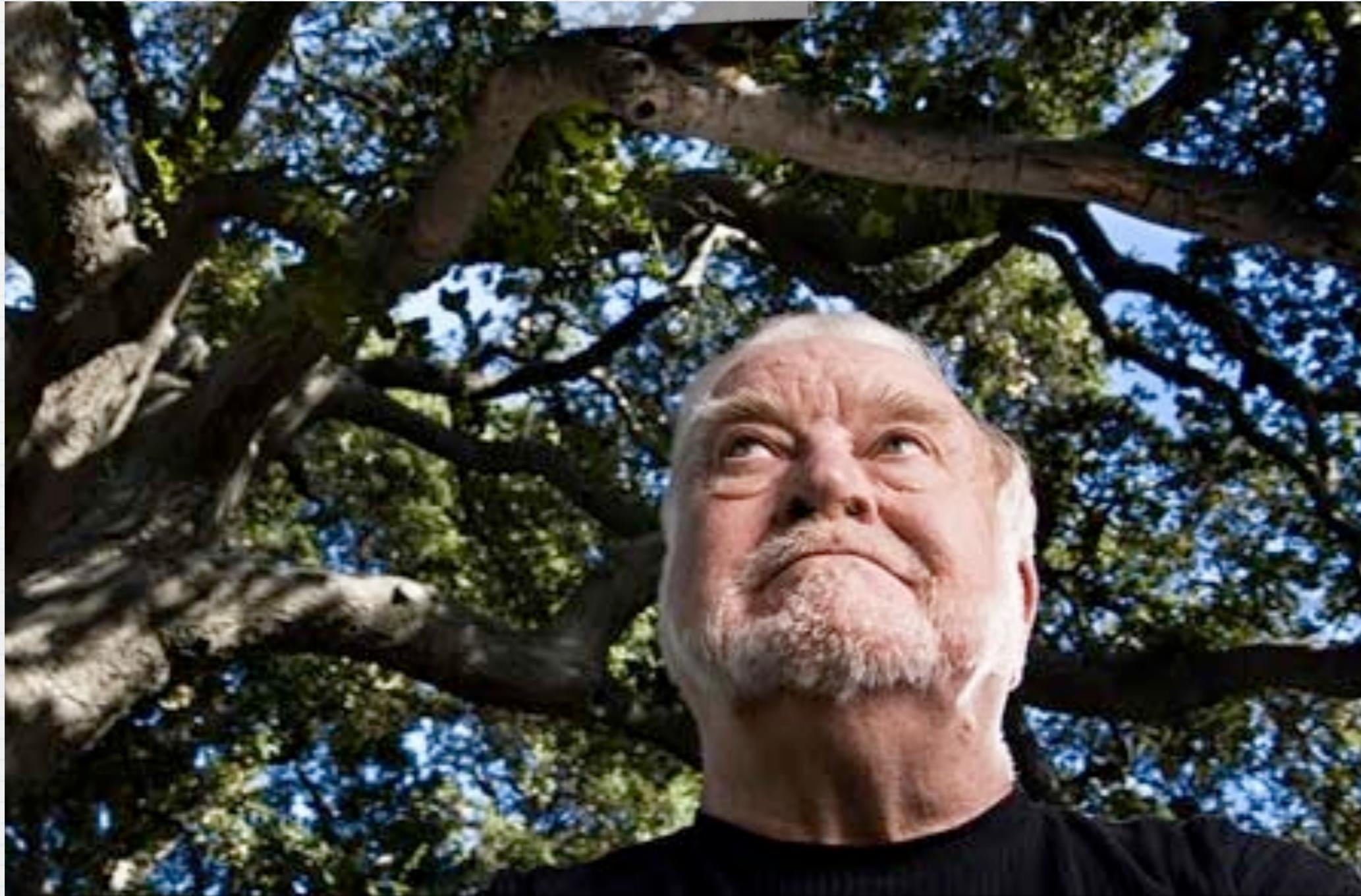
Gradual Release of Responsibility





From each according
to his **ability**,
to each according
to his **need**.

– Karl Marx



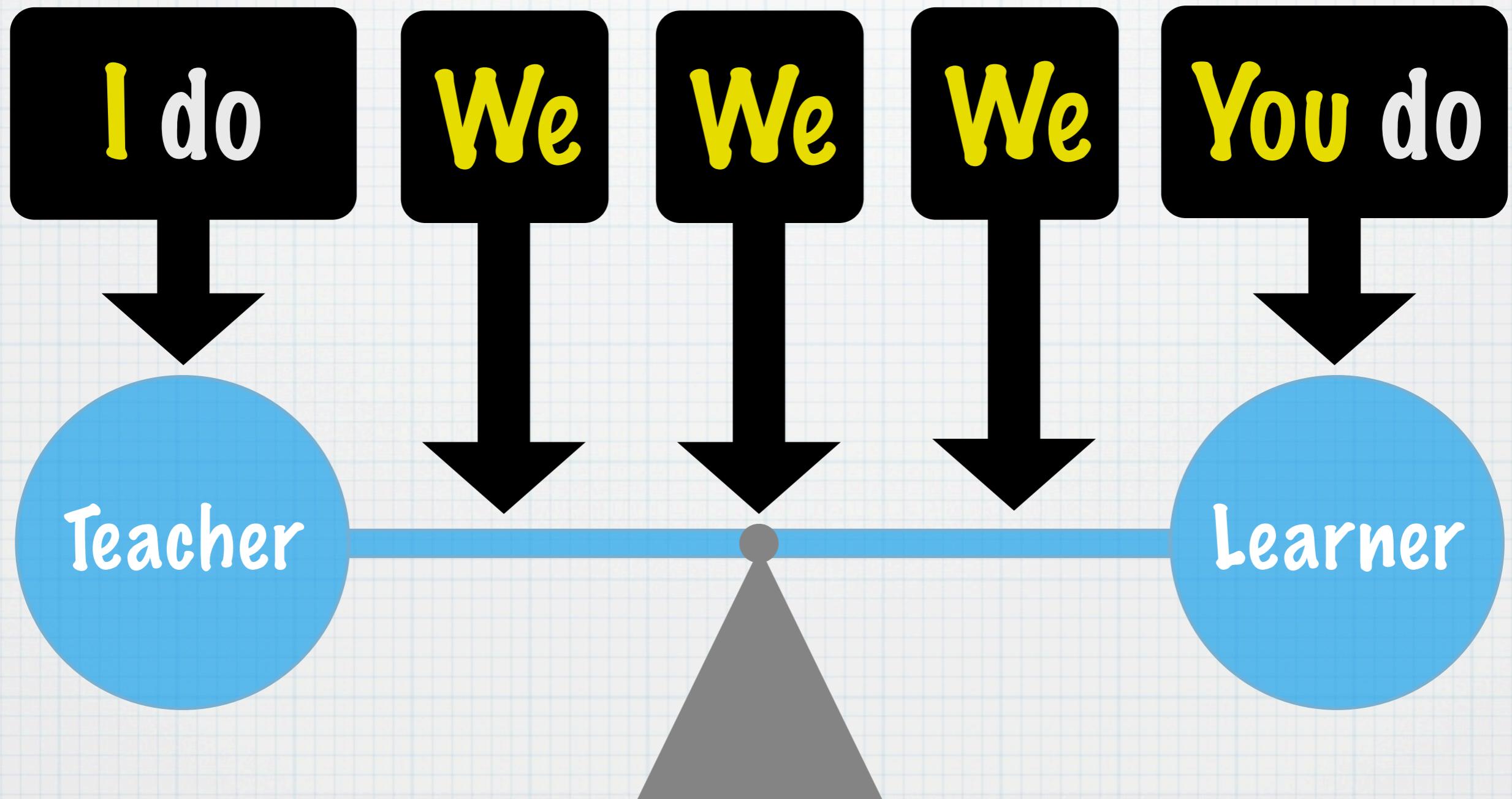
From each demand just beyond his ability,
to each support just below his need.

Mihaly Csikszentmihalyi

I do
We do
You do

Execution

Gradual Release of Responsibility

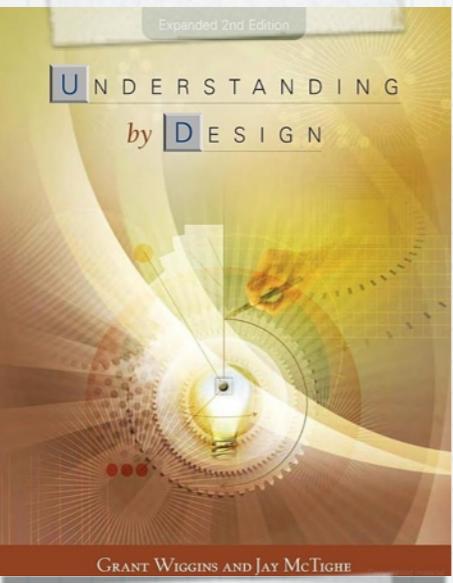


Wrap Up



Prerequisites

Maslow's Hierarchy of Needs



Planning

Understanding by Design



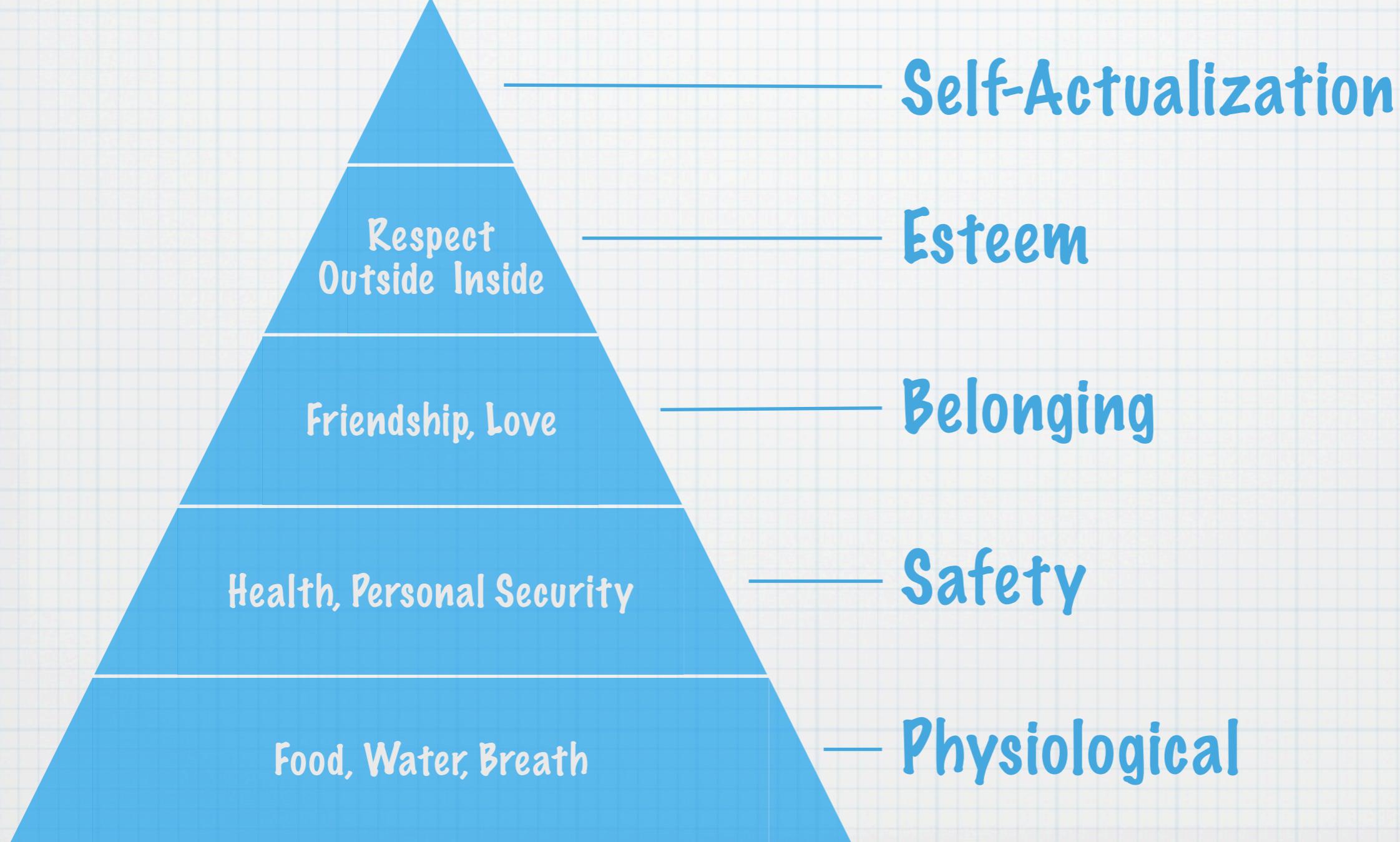
Execution

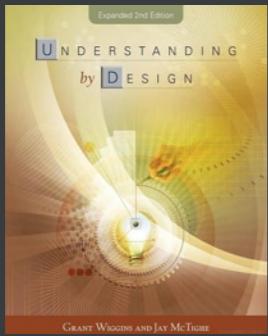
Gradual Release of Responsibility



Prerequisites

Maslow's Hierarchy of Needs

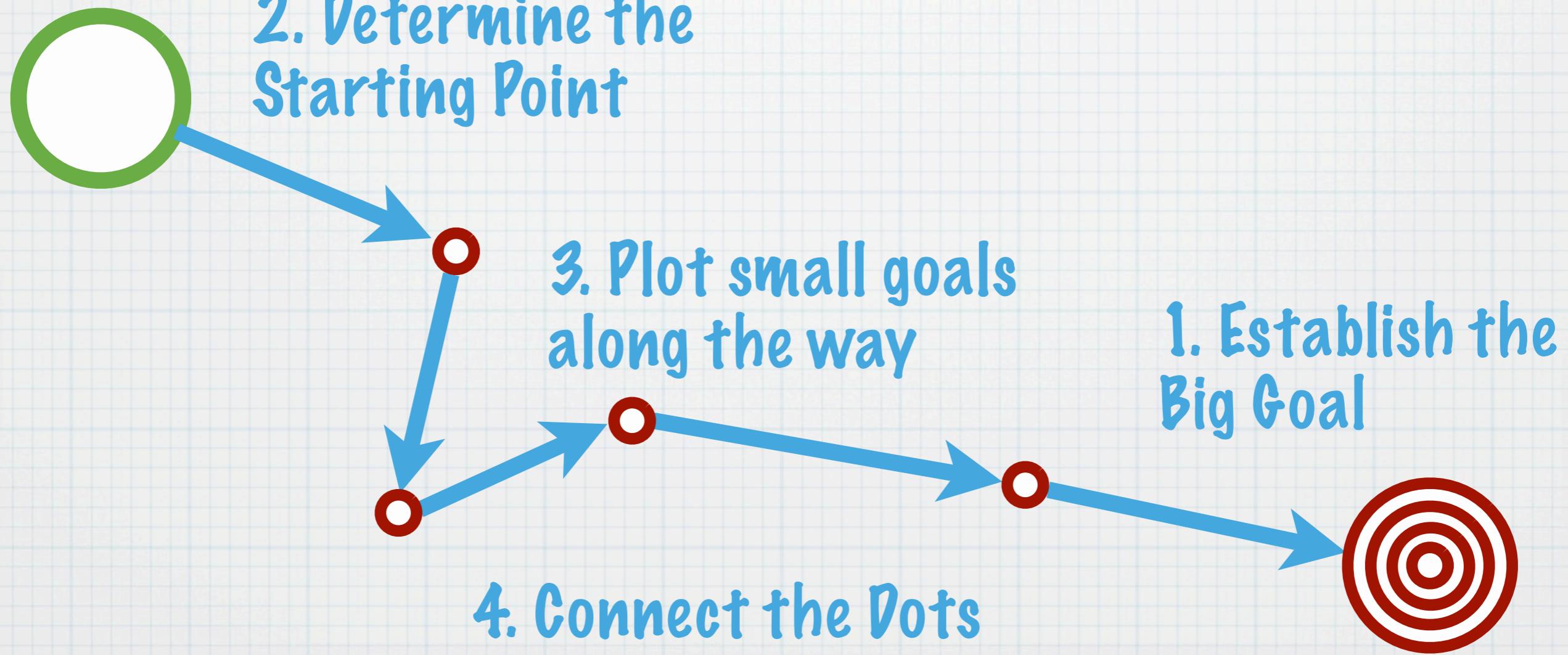




Planning

Understanding by Design

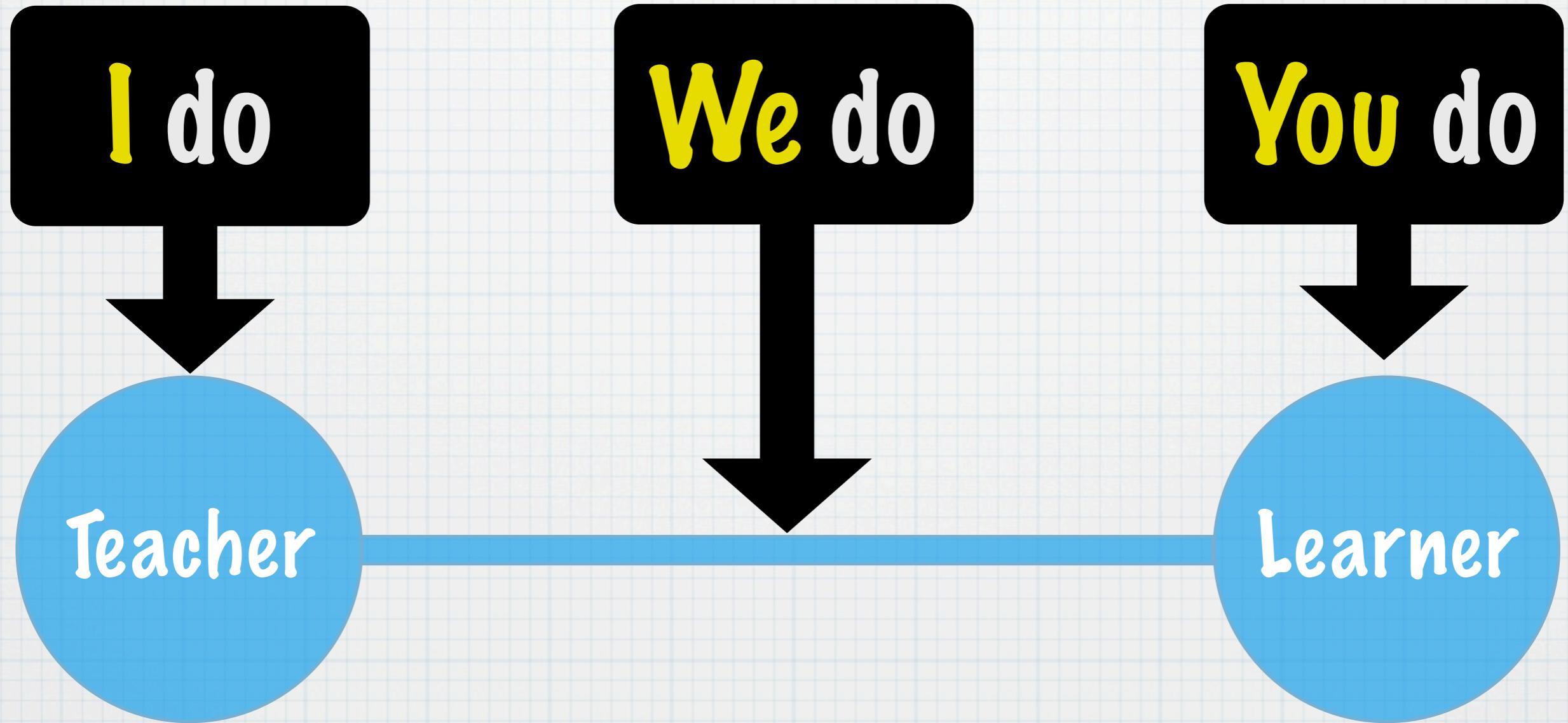
UBD Process



I do
We do
You do

Execution

Gradual Release of Responsibility



Images

Kathy Sierra: <http://bit.ly/apnH8X>

William Butler Yeats: <http://bit.ly/awlodE>

Lego Man: <http://flic.kr/p/HrT92>

Spaghetti: <http://flic.kr/p/tnVHS>

TDD Cycle: <http://bit.ly/ddsxFX>

Sleeping Student: <http://flic.kr/p/4RUr87>

Bricks: <http://flic.kr/p/4AxPn9>

Asia Globe: <http://flic.kr/p/8YzaR>

Japan: <http://www.japannet.de/japan/japan3.gif>

China: http://www.oiep.umd.edu/Training/images/Travel_CHINA.gif

Surprised Faced Boy: <http://flic.kr/p/GWxLA>

Blacksmith: <http://vikashazrati.files.wordpress.com/2009/11/blacksmith.jpg>

Handshake: <http://flic.kr/p/34n54H>

Karl Marx: http://en.wikipedia.org/wiki/File:Karl_Marx.jpg

Mihaly Csíkszentmihályi: <http://bit.ly/9Xwr4c>



Intro to Programming with Ruby
April 17 18



Intro to Design with Adobe Flex
April 24 25



Level 2 Rails Development
(BDD, ActiveRecord, HAML)
May 22 23



Professional Rails Development
June 6 in Baltimore



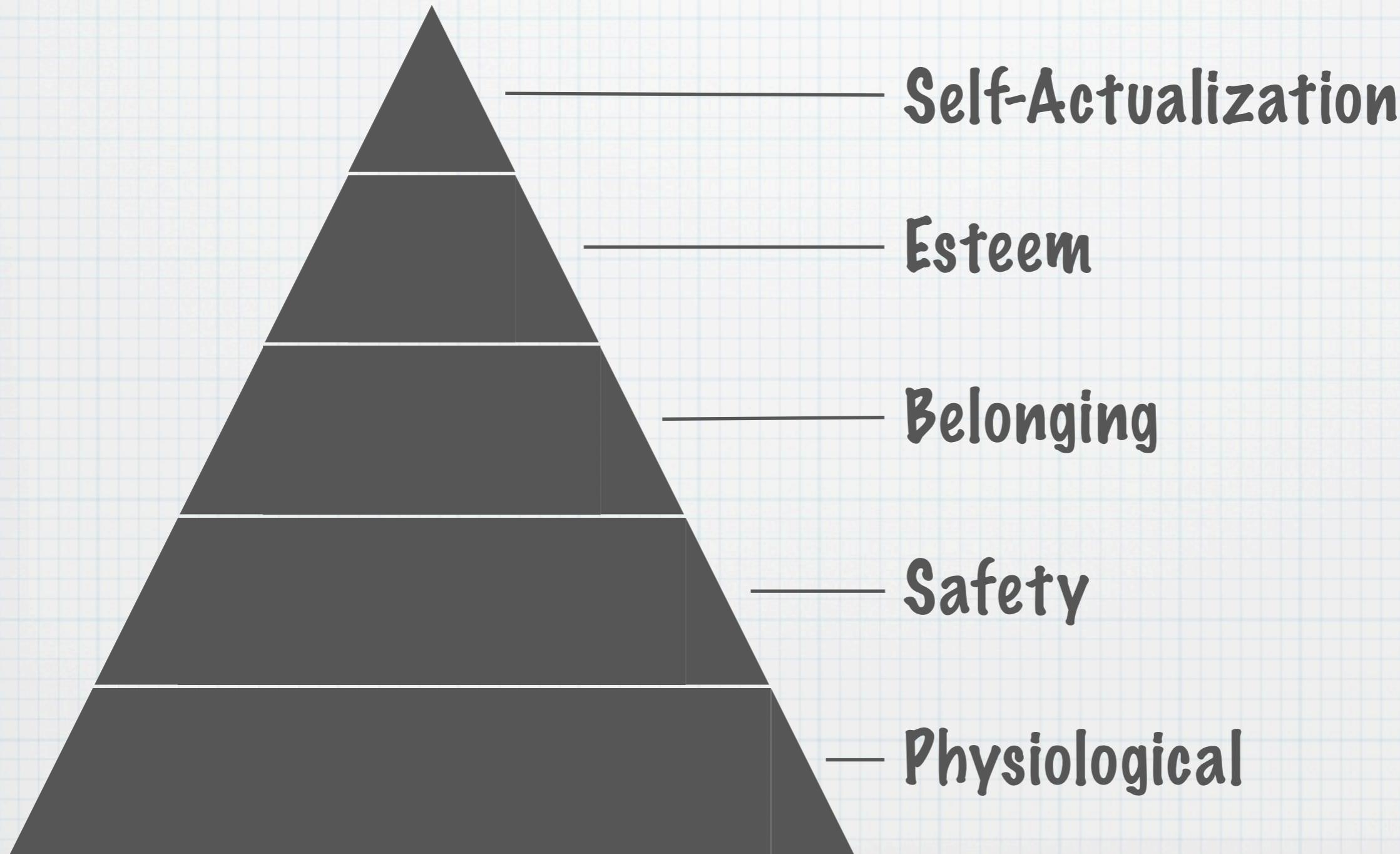
Advanced Git with
Scott Chacon from Github
July 10

Diagrams & Scraps



Prerequisites

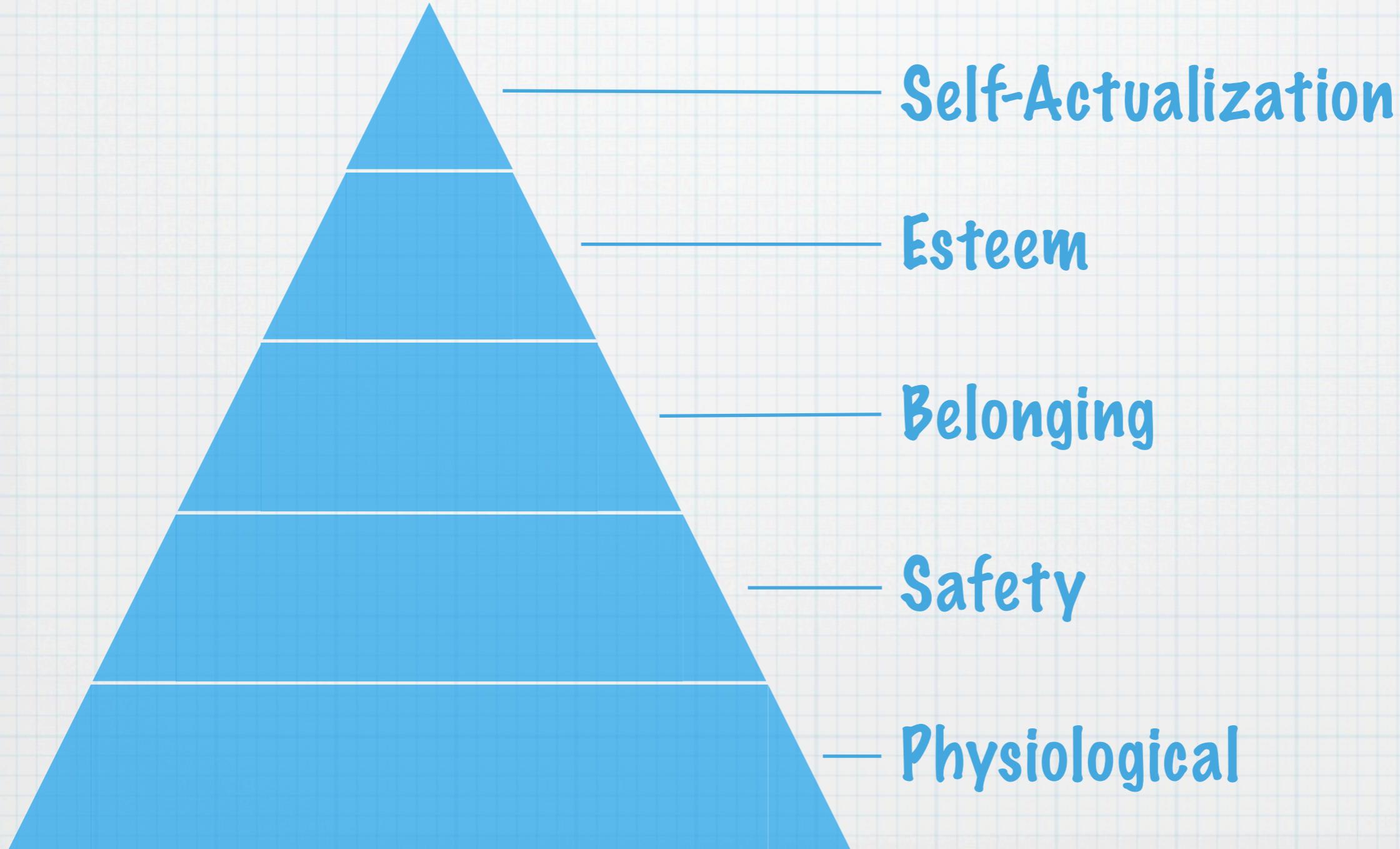
Maslow's Hierarchy of Needs

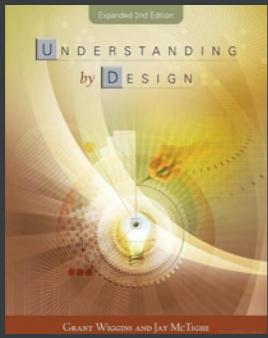




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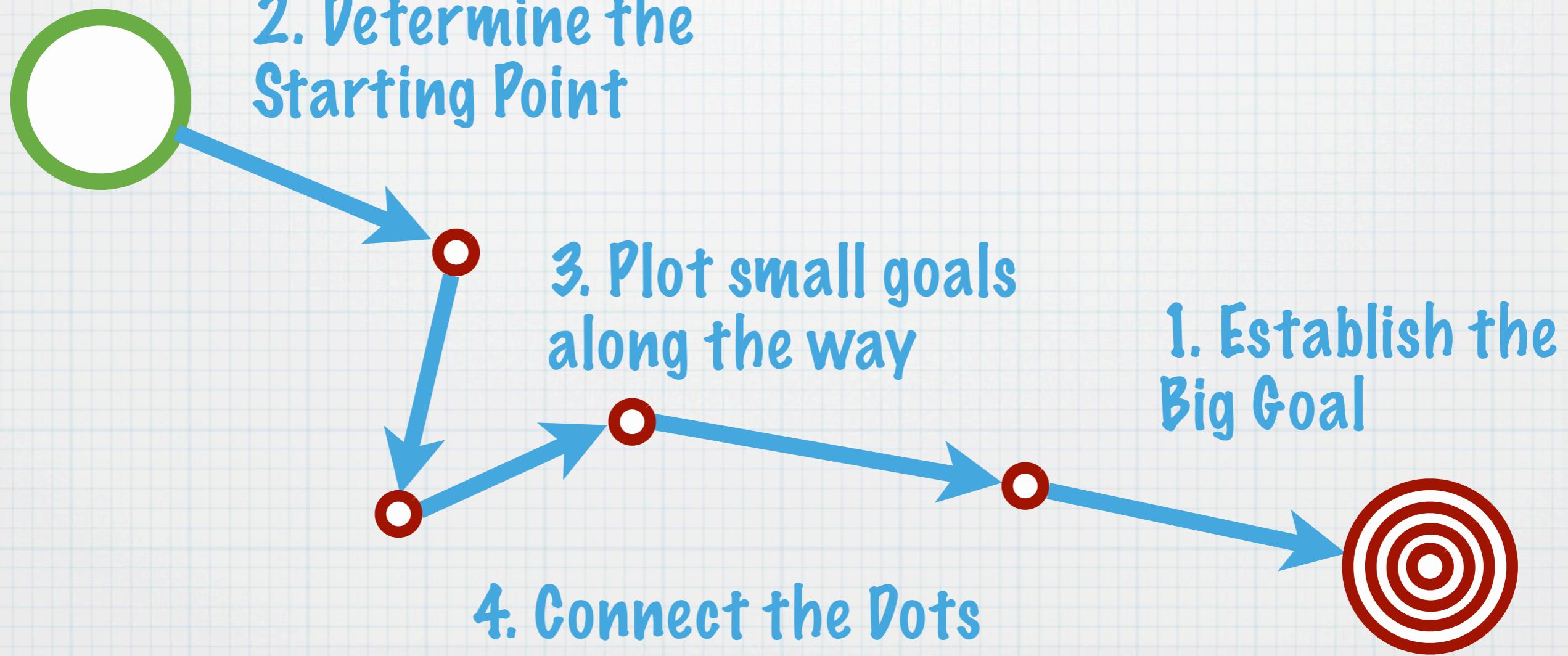




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