Learning to learn/ python intro

Taryn Heilman
DSI
January 22, 2018

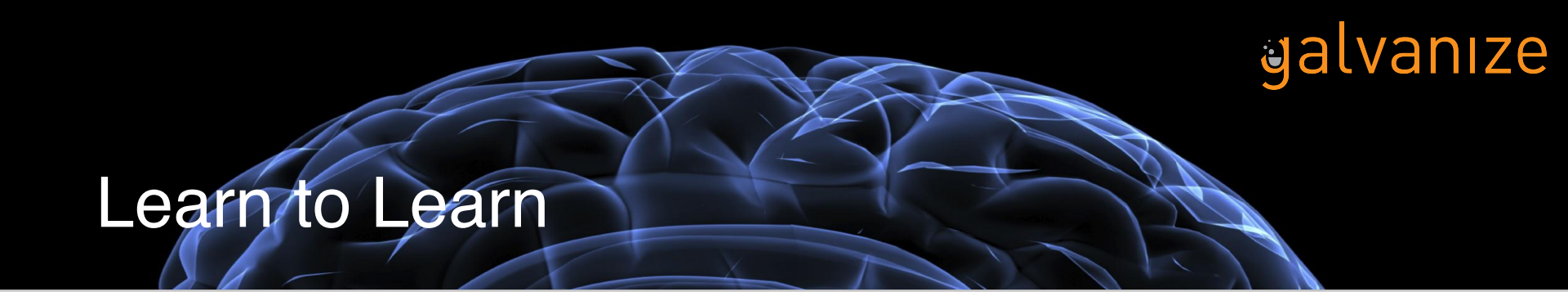
galvanize

Learning Objectives

galvanize

- **Explain the three-stage learning process, and identify strategies you will use in each of the three stages of the learning process**
- **Outline course expectations - ours and set yours**
- **Pair programming best practices**

Learning to Learn



galvanize

Learn to Learn

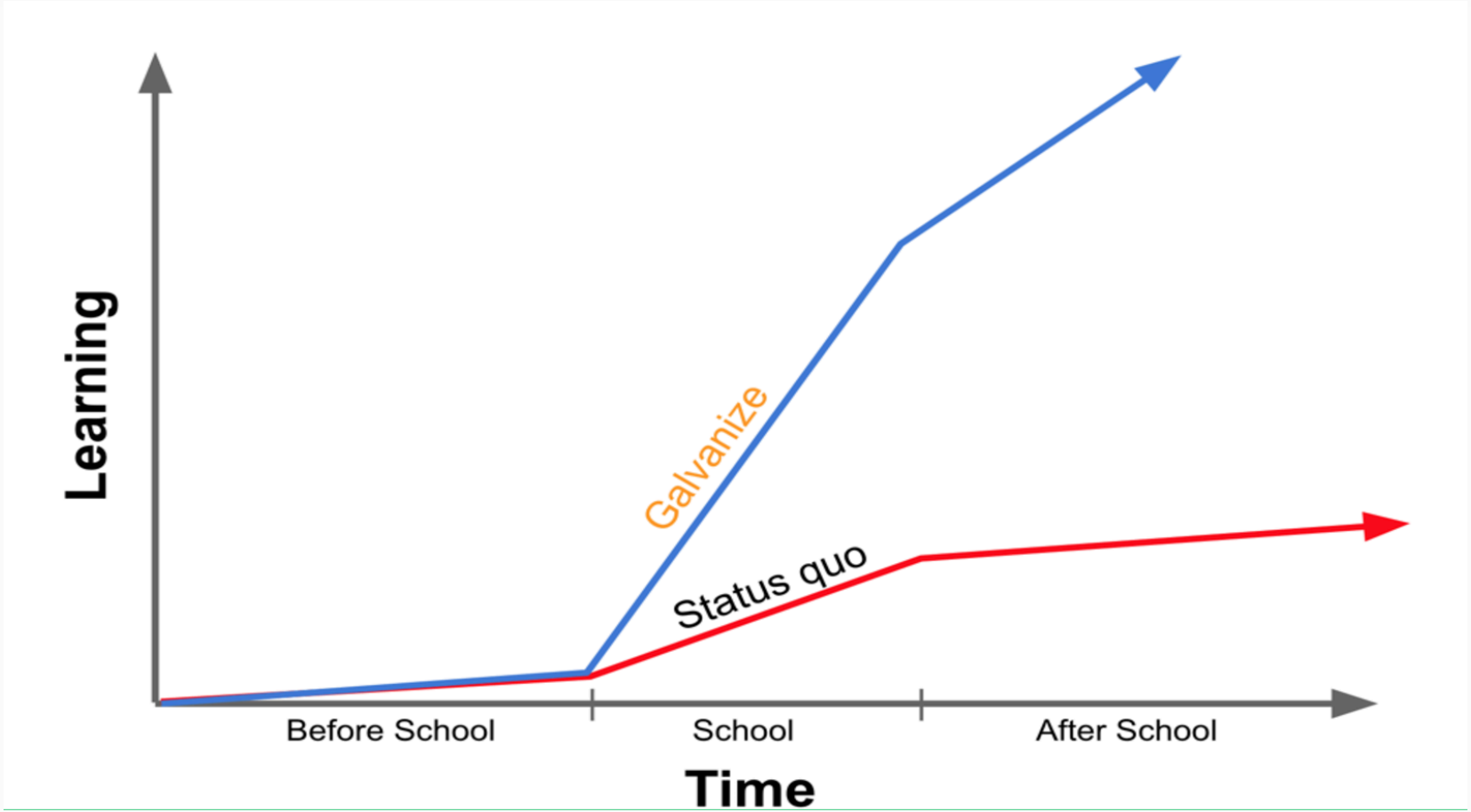
An introduction to thinking like a developer

Engineers approach problems in a methodical and disciplined manner. Start practicing to be a good engineer now by changing the way you learn.

“Practice doesn’t make perfect. Perfect practice makes perfect” - Vince Lombardi

“Learn to Learn”

galvanize



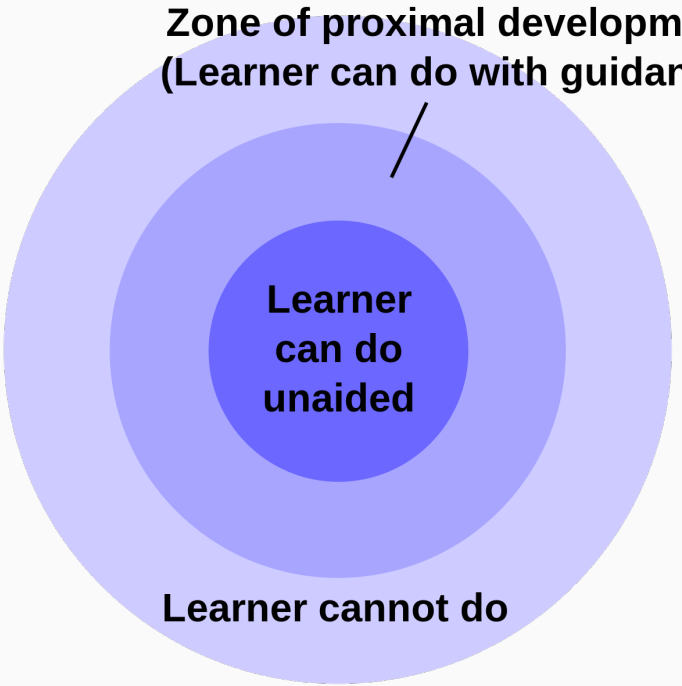
Three Stages of Learning

galvanize

- Set the stage
- Take risks and have fun!
- Reflect/ self-assess

Set the Stage

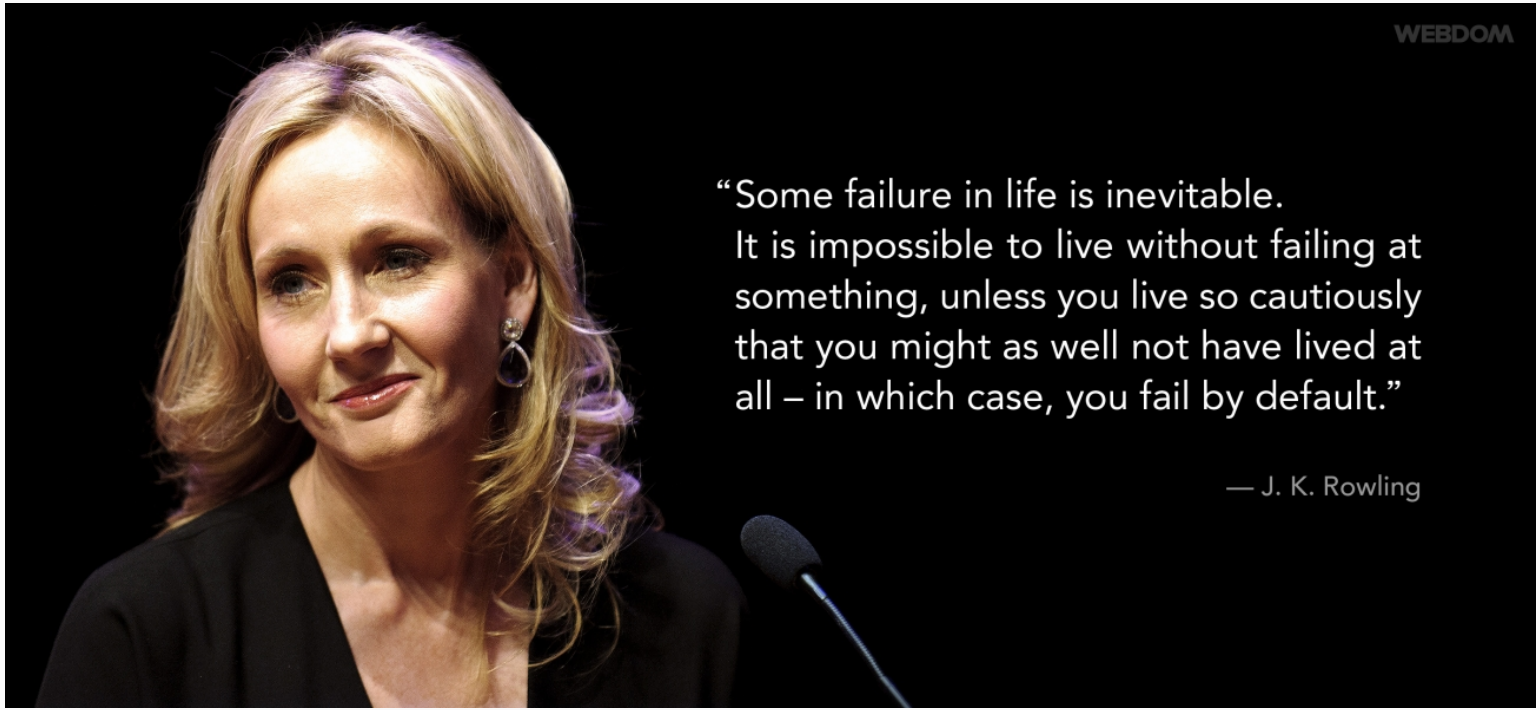
- Clear the stage
- Clarify the *what* and the *why*
- Prioritize process over product (don't miss the forest for the trees!)
- In practical terms…take some time to internalize learning objectives and read all of the directions. Sketch a road map of assignment before you begin so that you remember where you are trying to go



Take risks and have fun!

galvanize

- Wrestle with the problems - this is how you learn to SOLVE PROBLEMS
- You won't have the whole answer starting out - try something, assess, try something else!



10 Growth Mindset Statements

What can I say to myself?

INSTEAD OF:	TRY THINKING:
I'm not good at this.	1 What am I missing?
I'm awesome at this.	2 I'm on the right track.
I give up.	3 I'll use some of the strategies we've learned.
This is too hard.	4 This may take some time and effort.
I can't make this any better.	5 I can always improve so I'll keep trying.
I just can't do Math.	6 I'm going to train my brain in Math.
I made a mistake.	7 Mistakes help me to learn better.
She's so smart. I will never be that smart.	8 I'm going to figure out how she does it.
It's good enough.	9 Is it really my best work?
Plan "A" didn't work.	10 Good thing the alphabet has 25 more letters!

(Original source unknown)

@sylviaduckworth

Reflect

- Self assess
- Ask new questions
- Repeat

Spoiler alert: scene from
Game of Thrones Season 7, Episode 3 approaches

What to expect

Your typical day in the DSI

galvanize

9:00 - 10:00 AM Lecture

10:00 AM - 1:30 PM Individual programming activity + lunch

1:30 - 2:30 PM Lecture

2:30 - 6:00 Paired programming activity

Once weekly : Career services (9-10 AM Tuesdays)

Once weekly : Weekly review sessions (whiteboarding/interview practice, usually 9-10 AM Friday)

Approximately once weekly : 1-2 hour assessment

After week 3: Outside speakers proposing projects and talking about their data science roles and transitions, 9-10 AM or 5-6 PM

Fridays of weeks 4, 6, 7, & 8 - Case studies in groups of 3-4

What your instructors want you to know

galvanize

Weeks 1-3 are pretty grueling, and most people experience a lot of doubt and frustration in these weeks. This is normal! After this, people start to get into the groove of things and feel a little better about how things go.

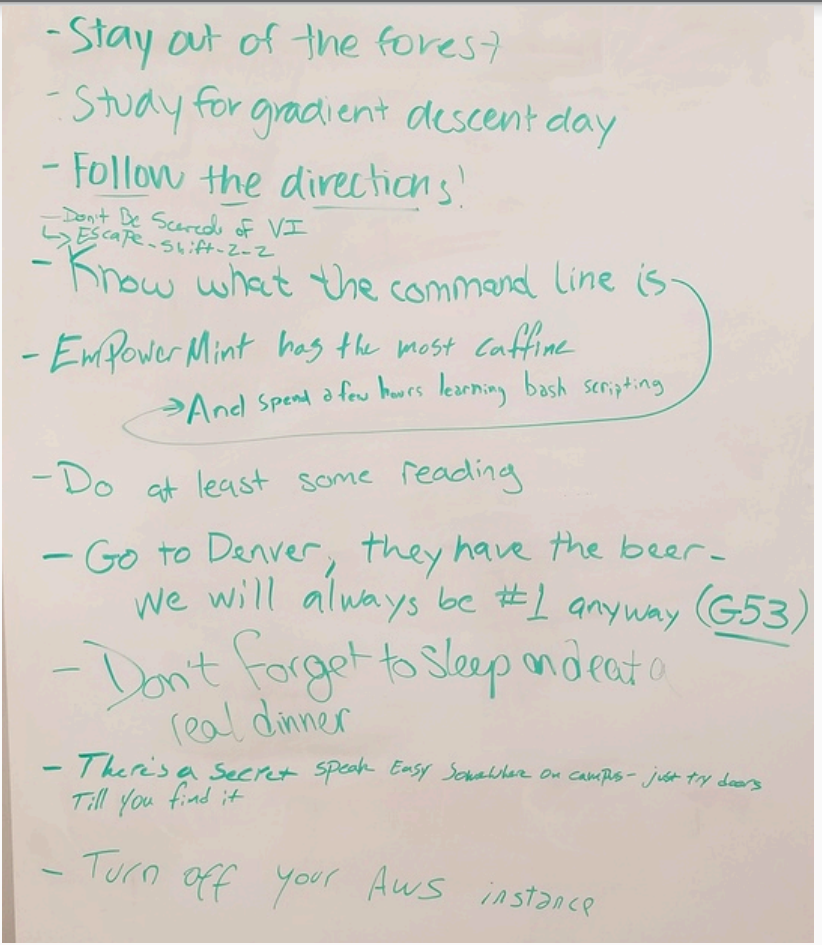
Our curriculum is designed so that the most experienced, quickest learners will BARELY make it through all of the material on a given day. Usually, you should expect to get 75-80% of an assignment done

It is better to work ahead - I.e. spend your evenings doing reading and studying for the next day - than trying to finish up an assignment.

THIS is NOT high school/college…

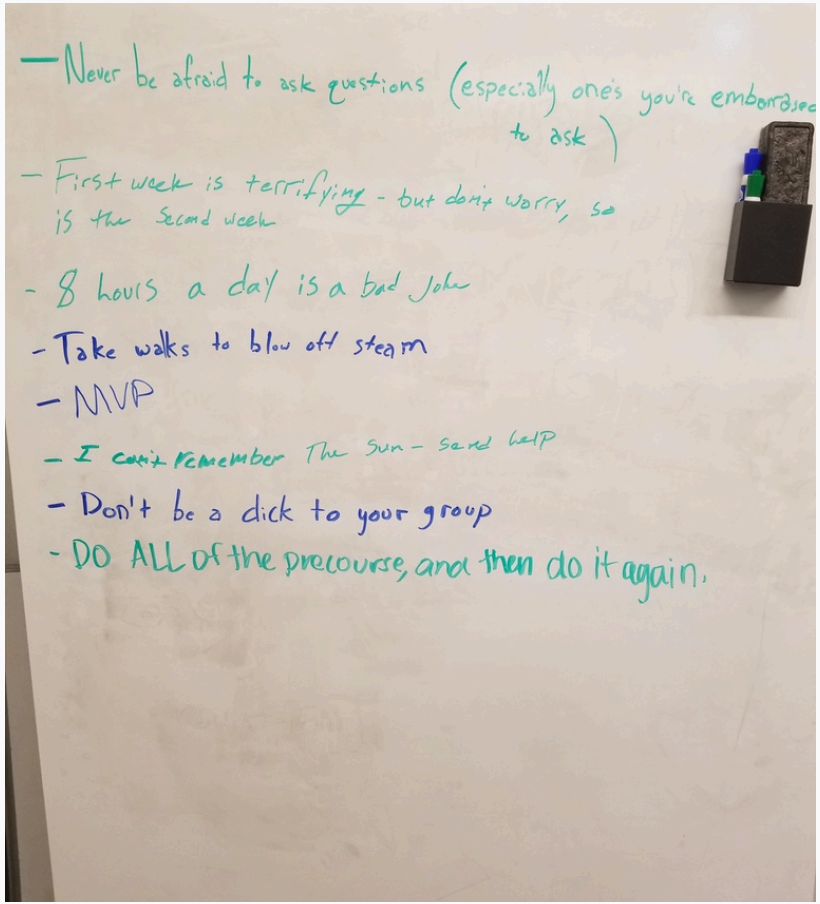
- No spoon-feeding. We won't give you a list of exactly what to study for on assessments, just as you (usually!) aren't given a list of topics to be knowledgable about before a job interview.
- If you get an error message, I expect you to problem solve and trouble shoot yourself. (~10 minutes is a good length of time to struggle with something. If you are stuck on one thing for longer than this, ask for help)

Advice From Previous Students



- Stay out of the forest (AKA - don't get too hung up on small details, see the big picture)
- Study for gradient descent day
- FOLLOW THE DIRECTIONS!
- Don't be scared of VI -> Escape-Shift-Z-Z
- Know what the command line is and spend a few hours bash scripting
- EmPowerMint has the most caffeine
- Don't forget to sleep and eat a real dinner
- Turn off your AWS instance when you are finished

Advice From Previous Students Con't



- Never be afraid to ask questions (especially ones you are embarrassed to ask)
- First week is terrifying, but don't worry, so is the second week
- 8 hours a day is a bad joke
- Take walks to blow off steam
- MVP (Minimum Viable Product!)
- Don't be a dick to your group
- Do all of the precourse, and then do it again

Pair Programming

Pair Programming

galvanize

What is it?

- One computer, two keyboards, mirrored screens
- One driver, one navigator (switch off - 15-20 minute intervals work well!)
- Partners will be chosen for you at first, later you can choose
- We have an odd number so some days this may mean groups of 3, some days one person will partner with an instructor

Pair Programming

galvanize

Why?

- Learn more
- Higher quality output
- Good practice:
  - Collaborating and communicating at length about complex program
  - Working with partners with different skill sets and backgrounds
- Increasingly popular in industry

Pair Programming Core Principles

galvanize

- Get to know your partner (recap lecture/ morning experiences)
- Take turns : trade drivers every 30 min or so
- Listen and ask questions of your partner!
- Be patient: if your partner types something that you think is wrong, try to understand first before correcting
- Be clear: explaining technical concepts is hard! This is good practice
- Be humble
- Disagree productively
- Switch partners daily and try to work with all classmates in equal rotation*