

# HUDK 4050: CORE METHODS IN EDM

If you have not completed the  
entrance survey:

<http://bit.ly/HUDK4050INTRO>

# In the news



**What Changed in How the 2020 Best Colleges Rankings Were Calculated?**

**DAILY NEWS**

**New Education Dept. data paints less rosy picture of school bus debut on 1st day of classes**



**Here's how much college cost the year you were born**

**Forbes**

**We're Spending \$11B on Education Technology: How Do We Know If It's Working?**

**Bloomberg**

**When Elon Met Jack: Musings on AI, Mars and the End of Civilization**

# Events

Title	Date - Time	Location
Masclab Open Day	09/11 - 12:00pm	HM138
Research at Amazon AWS	09/11 - 12:00pm	Davis Auditorium
<u>Rapid Response Research in DS</u>	09/13 - 12:00pm	1406 Nth Corner
<u>Our Tech Futures</u>	09/21 - 10:00am	Columbia
<u>AI in the Classroom</u>	09/20 - 3:00pm	YC
<u>Careers in Data Science in Ed</u>	09/25 - 3:30pm	TC
Formal & Informal LA (lunch)	10/4 - 11:00am	GDH 449

# Today

- **Content:** Educational goals
- **Workflow:** Github
- **Engagement:** Swirl

# Educational Goals

# Differences between EDM & LA?

- EDM = rooted in tech field, LA = ed field
- EDM = automation/tech driven, LA = using tech as a tool to enhance human judgement
- Methodological differences EDM = machine learning, LA = text & SNA
- EDM = individual, LA = holistic
- Challenge of integrating the tech and ed

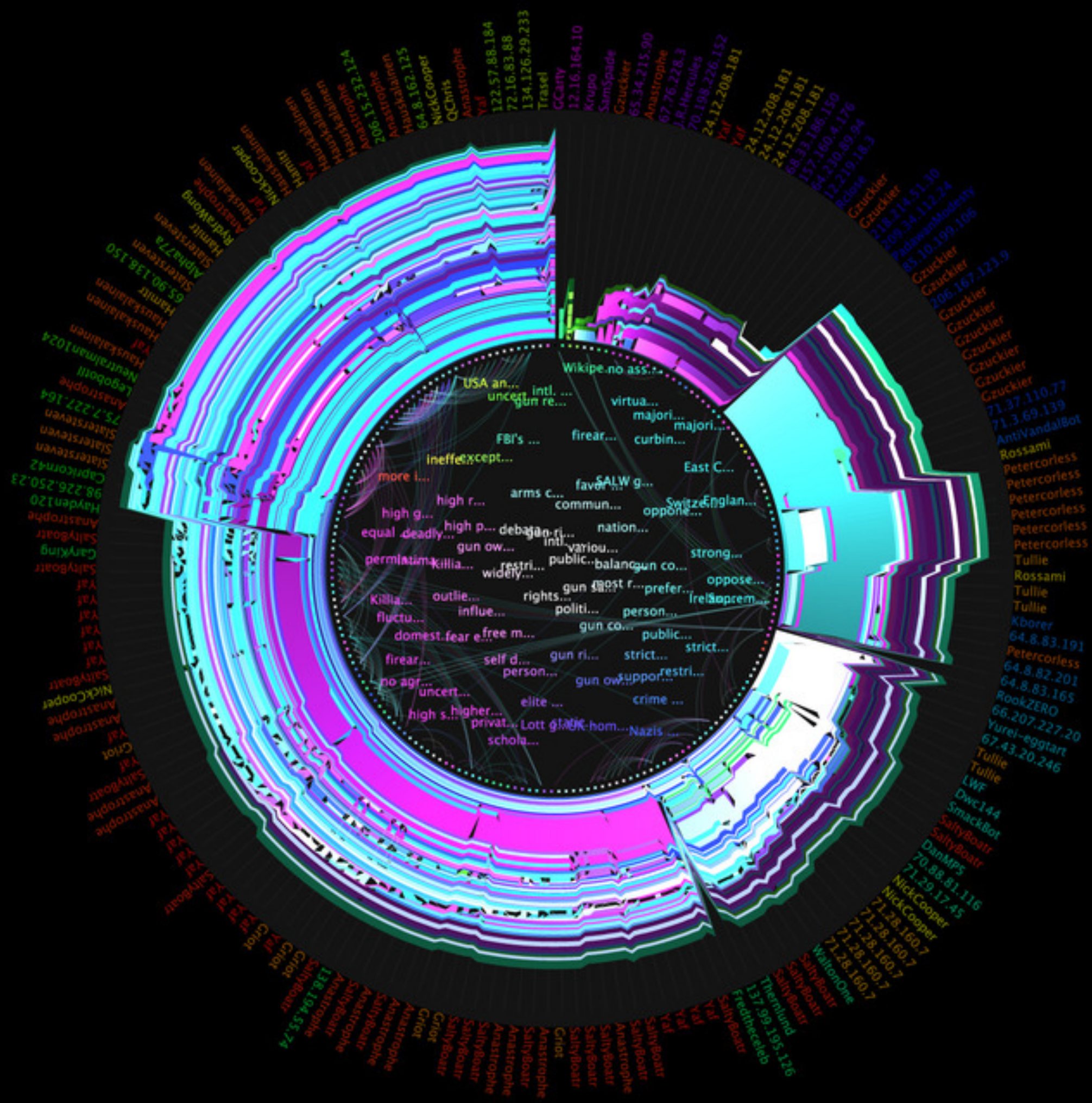
# Why is it so difficult to measure learning?

- Don't know where a student is starting from
- Can't measure all the ways that people learn
- Based on proxies, but proxies change based on context, not just individual
- We have to simplify but may throw away the signal and keep the noise



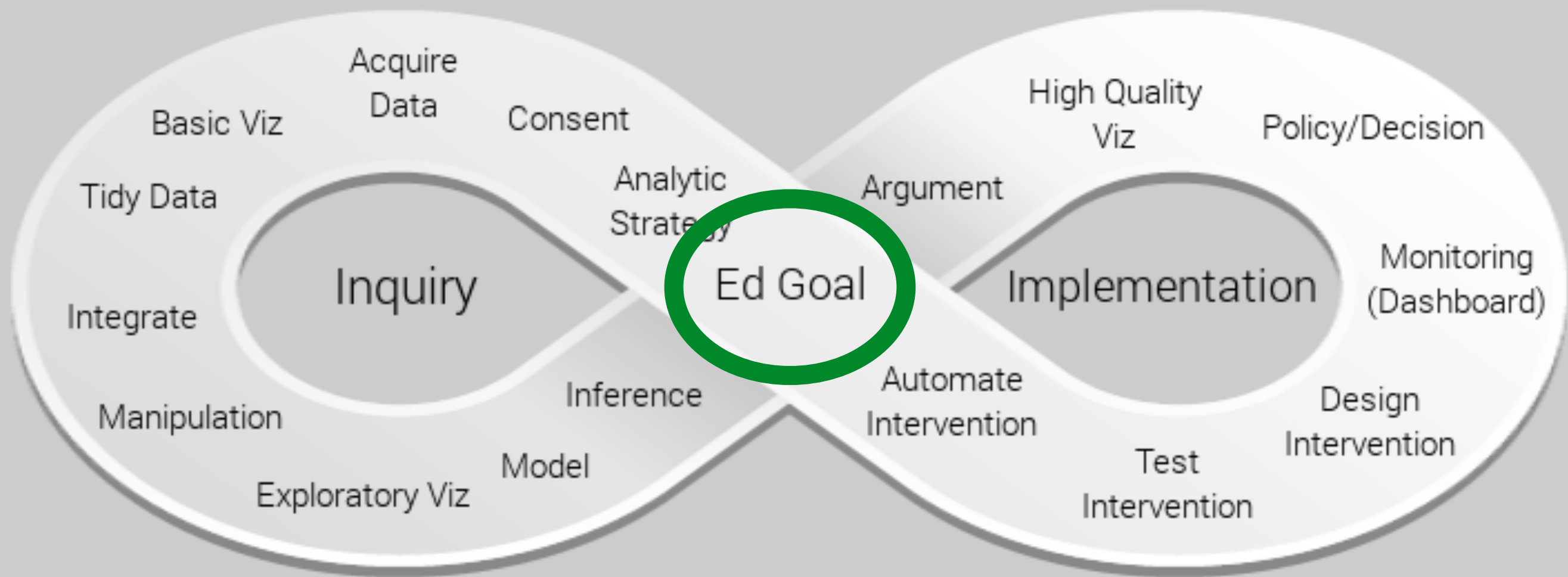
# People Don't Agree

- Go to the Wikipedia page for “learning analytics”:
- [https://en.wikipedia.org/wiki/Learning\\_analytics](https://en.wikipedia.org/wiki/Learning_analytics)
- Click on “View History”
- Do you see in patterns in the revision history?





# Ed Data Science Cycle



“It’s better to be at the bottom of the ladder you want to climb than at the top of the one you don’t.”

–Stephen Kellogg, 2013

# Google Books Ngram Viewer



# Why?

- Education is controversial
- Concepts cross disciplinary lines
- Vocabulary is slippery
- Systems are complex

# Characteristics

- Specific/tightly defined
- No jargon
- Measurable
- Attainable
- Relevant
- Time-limited
- Defined level of inference
- Contextual framework
- They can change (BUT keep a record of the change)
- Can be to answer a question (To determine the time of day students write the most words.)
- Needs to be workshopped with others

# Activity

1. With the person next to you
2. Determine one educational goal that you would like to define for yourself, for this semester
3. What could you count about your goal? How would you process that number? What meaning could you derive from it? What action will you take based on that meaning?
4. Log into your email. Write the goal and count in a new email and schedule the email to be sent to you on December 12, 2019





Git & Github

THIS IS GIT. IT TRACKS COLLABORATIVE WORK  
ON PROJECTS THROUGH A BEAUTIFUL  
DISTRIBUTED GRAPH THEORY TREE MODEL.

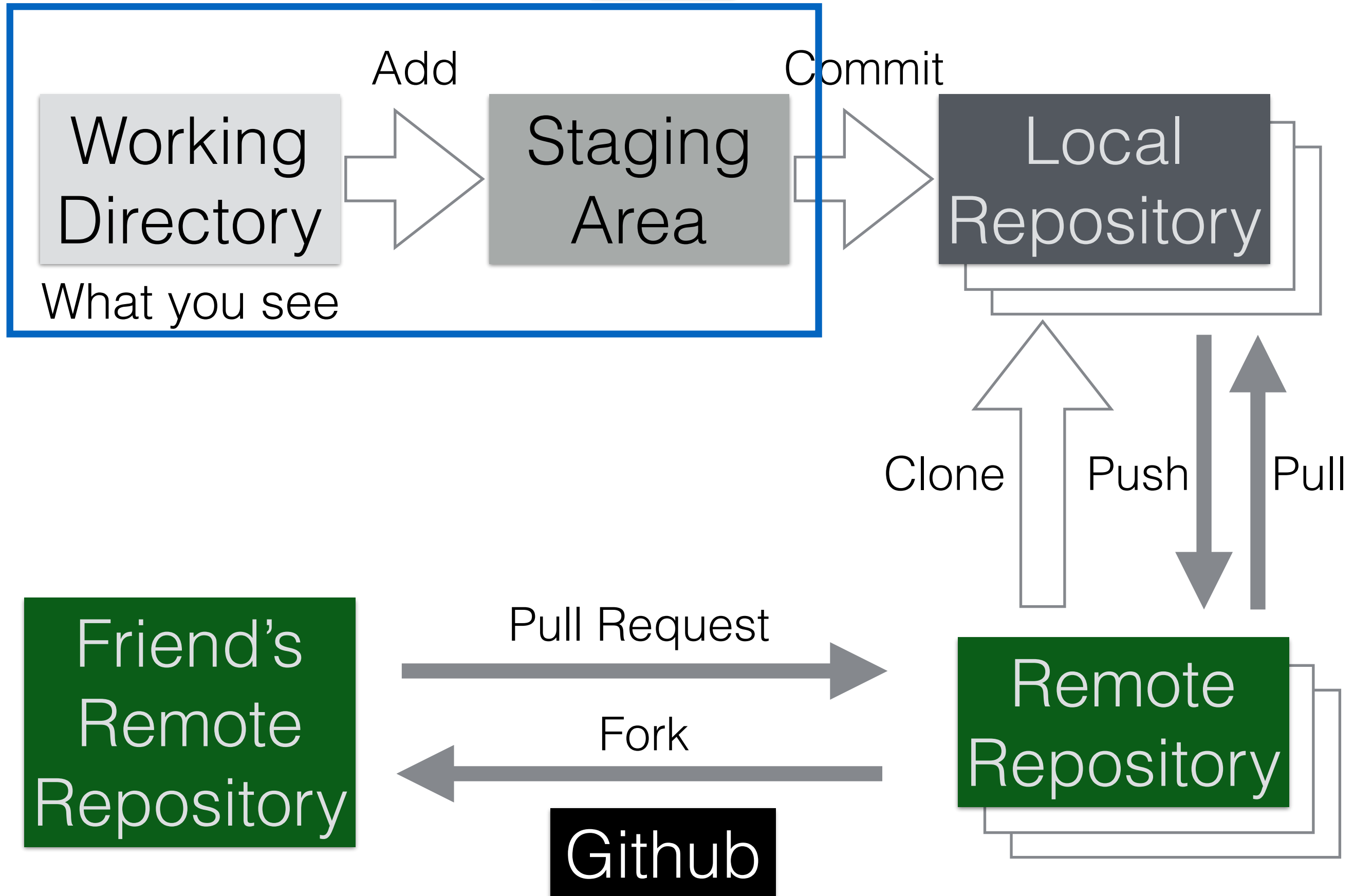
COOL. HOW DO WE USE IT?

NO IDEA. JUST MEMORIZE THESE SHELL  
COMMANDS AND TYPE THEM TO SYNC UP.  
IF YOU GET ERRORS, SAVE YOUR WORK  
ELSEWHERE, DELETE THE PROJECT,  
AND DOWNLOAD A FRESH COPY.



RStudio

Git



# Functions

- Open syllabus
- RStudio integration

[https://github.com/core-  
methods-in-edm/syllabus](https://github.com/core-methods-in-edm/syllabus)

# Github Process

- Log into Github/Create account if needed
- “Fork” core-methods-in-edm/syllabus page to your personal account
- Copy the URL from the cloned repository
- Open RStudio
- Click “File” -> “New Project” -> “Version Control” -> “Git...”
- Paste the URL place the new project in an appropriate folder with an appropriate extension
- Import the repo to your computer
- Click on the “README.md” file in your version
- Find an error or other change you would like to make in the syllabus file and change it
- Save the file
- Click “Git” -> “Commit”
- Mark the box next to the README file that you have changed and make a comment about why you are changing it
- Click “Commit Change”
- Click Pull and then Push
- Return to Github to see that your change has been made to your copy
- Now click on the “Pull Requests” tab and then “New pull request” to request the change be made to the original version

Fork

Commit

Clone

Push

Change

GitHub

Save

Pull Req

# Swirl

1. Open RStudio
2. Install swirl if you have not
3. Load swirl: `library(swirl)`
4. `uninstall_all_courses()`
5. `install_course_github("core-methods-in-edm", "swirl", multi = TRUE)`