

# HUDK 4050: CORE METHODS IN EDM

# In the news

**Chicago Tribune**

The most valuable college major? Actuarial science

**U.S. News & World Report Announces  
2019 Best Colleges Rankings**

**U.S. News**  
& WORLD REPORT

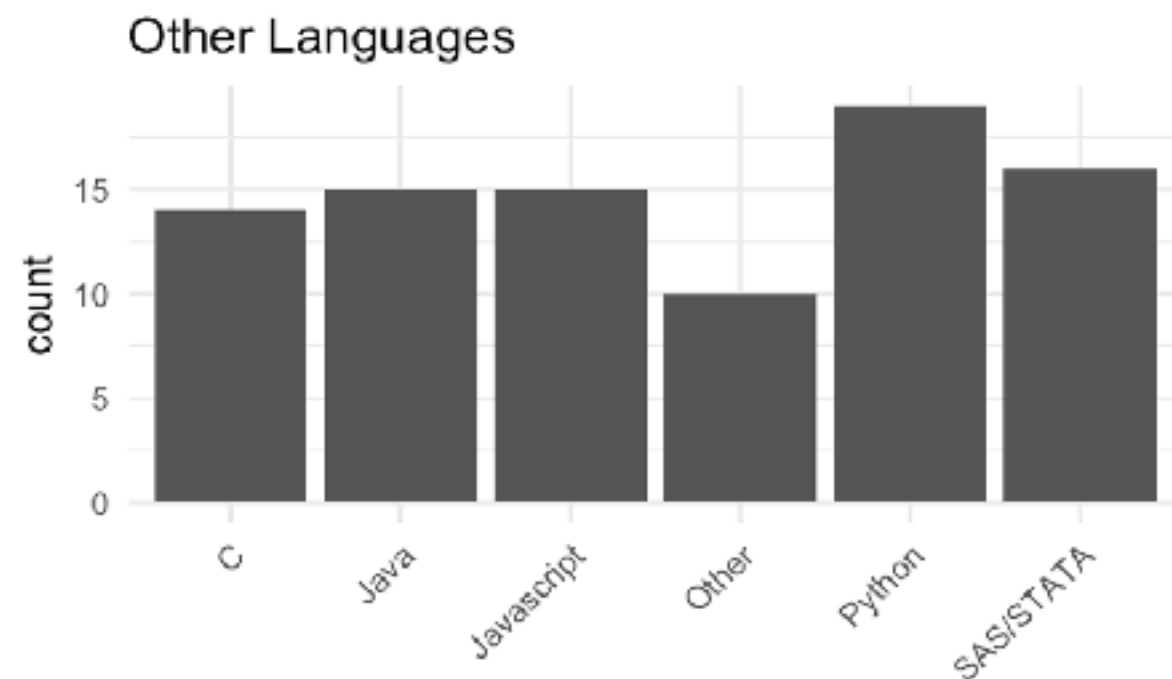
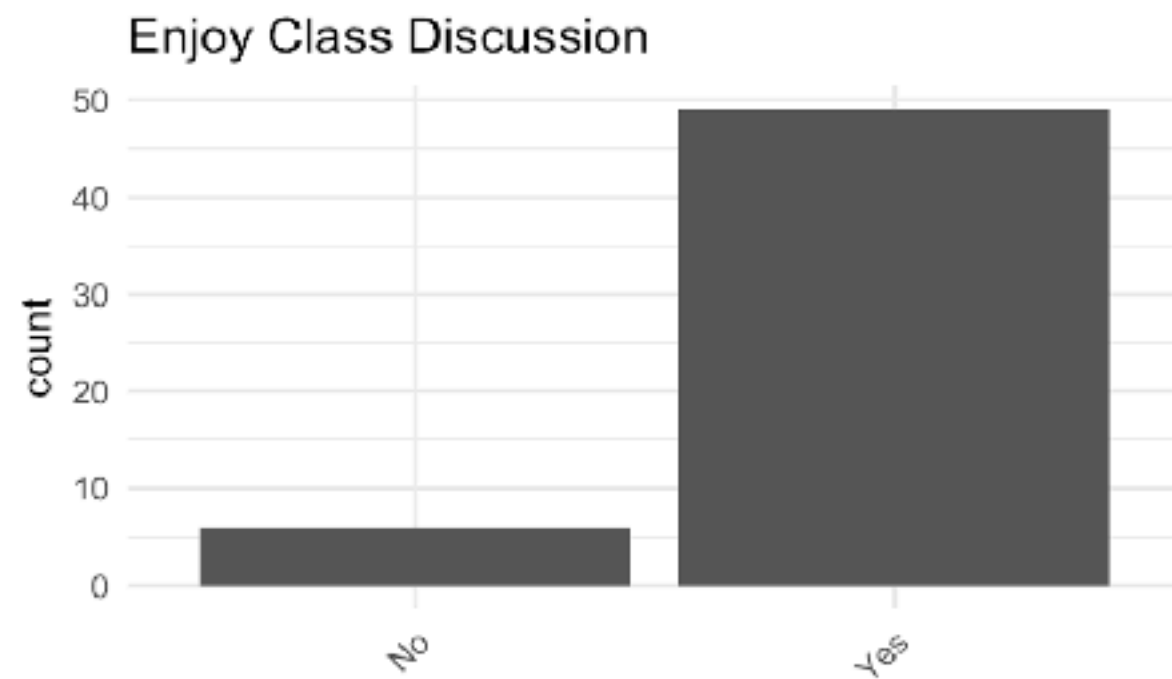
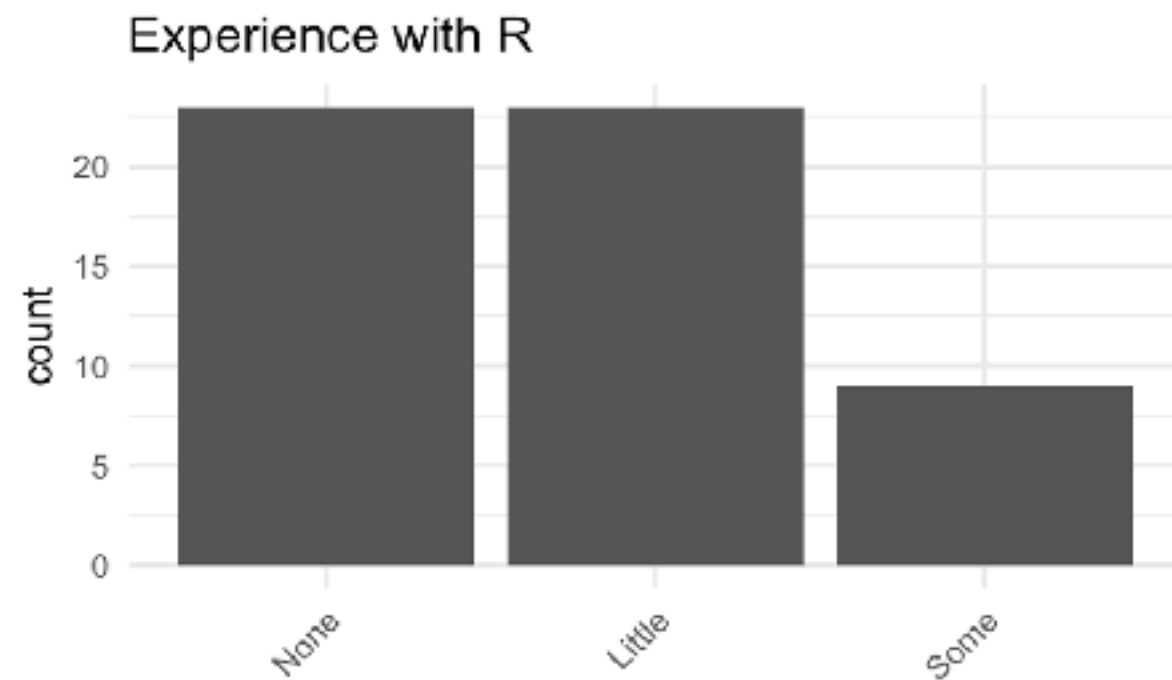
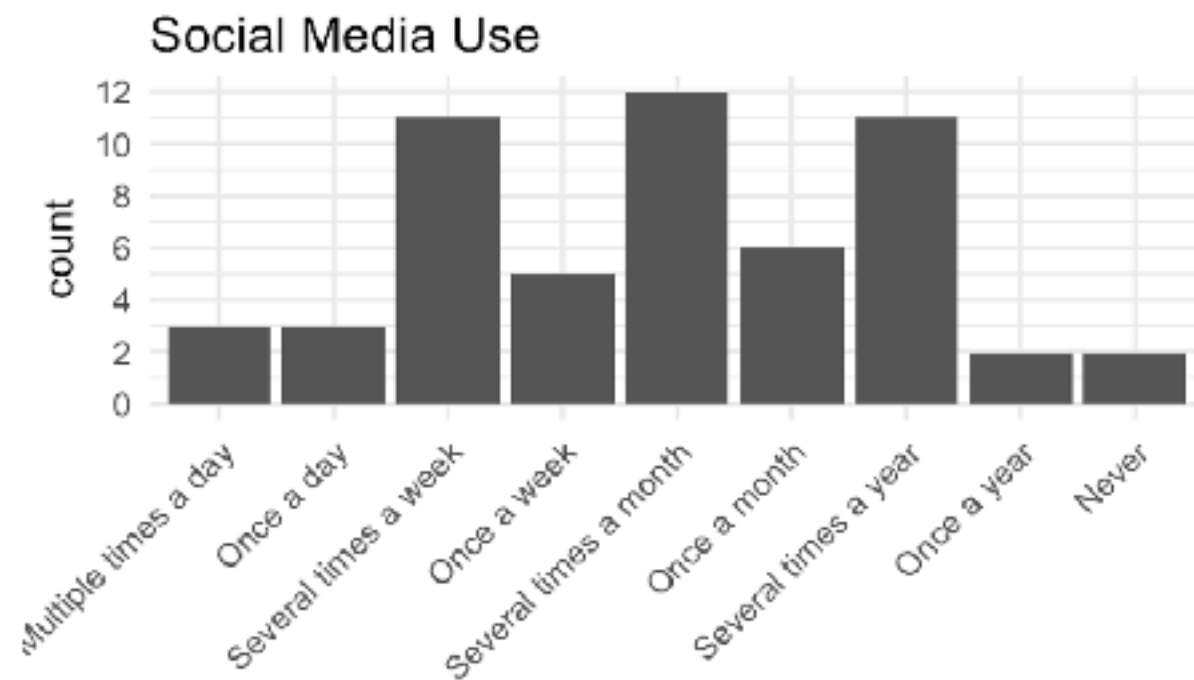
**c|net**

Teens pick texting over talking with friends in person, study finds

Most teens think tech companies manipulate them to spend more screen time, and Facebook has become less popular among teens.

**The New York Times**

**Polling the 2018 Midterm  
Elections in Real Time**



# Events

Title	Date	Link
HUD Dept. Meet, Eat, Drink & Mingle	3:00pm September 13	GDH 435B
Data for Good	1:00pm September 14	<a href="https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e25-658f087d-0165-91a9e5b4-000013a7events@columbia.edu&amp;recurrenceId=">https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e25-658f087d-0165-91a9e5b4-000013a7events@columbia.edu&amp;recurrenceId=</a>
C++: An Invisible Foundation	4:00pm September 13	<a href="https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e25-64bd60c9-0164-dc78bcca-000051e6events@columbia.edu&amp;recurrenceId=">https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e25-64bd60c9-0164-dc78bcca-000051e6events@columbia.edu&amp;recurrenceId=</a>
People centric approach to optimize Data Science, Commercial	10:30am November 14	<a href="https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e24-655b8449-0165-5e0ea7e9-00001957events@columbia.edu&amp;recurrenceId=">https://events.columbia.edu/cal/event/eventView.do?b=de&amp;calPath=%2Fpublic%2Fcals%2FMainCal&amp;guid=CAL-00bb9e24-655b8449-0165-5e0ea7e9-00001957events@columbia.edu&amp;recurrenceId=</a>
Data Driven NYC	6:00pm September 12	<a href="https://www.meetup.com/DataDrivenNYC/">https://www.meetup.com/DataDrivenNYC/</a>
LinkedIn NYC Tech Talks	6:00pm September 12	<a href="https://www.meetup.com/LinkedIn-NYC-Tech-Talks/">https://www.meetup.com/LinkedIn-NYC-Tech-Talks/</a>
Gigged: The End of the Job and the Future of Work	4:00pm September 19	<a href="https://datasociety.net/events/databite-no-113-sarah-kessler/">https://datasociety.net/events/databite-no-113-sarah-kessler/</a>

# Today

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

# 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

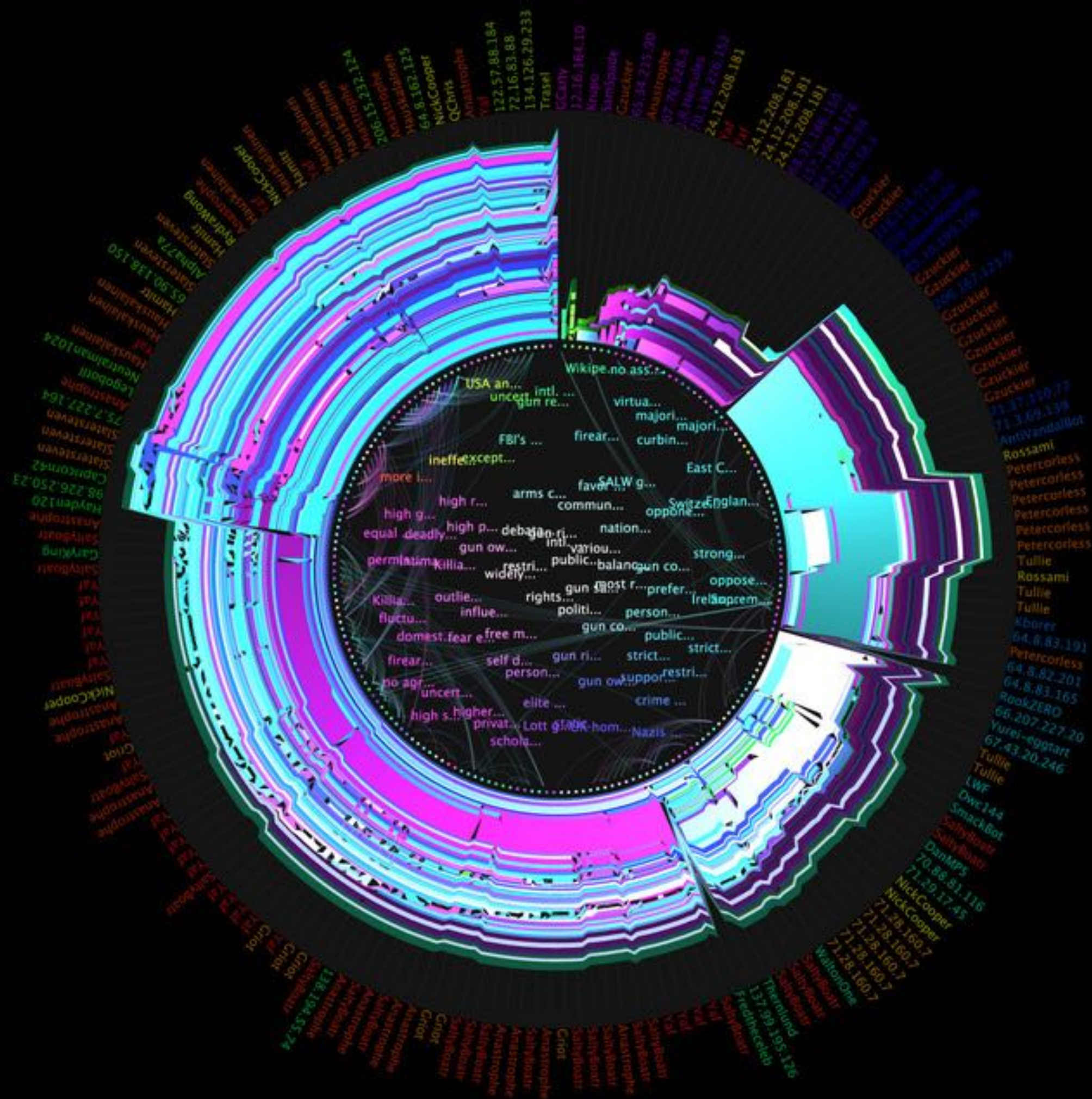
# Why is it so difficult to measure learning?

- 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



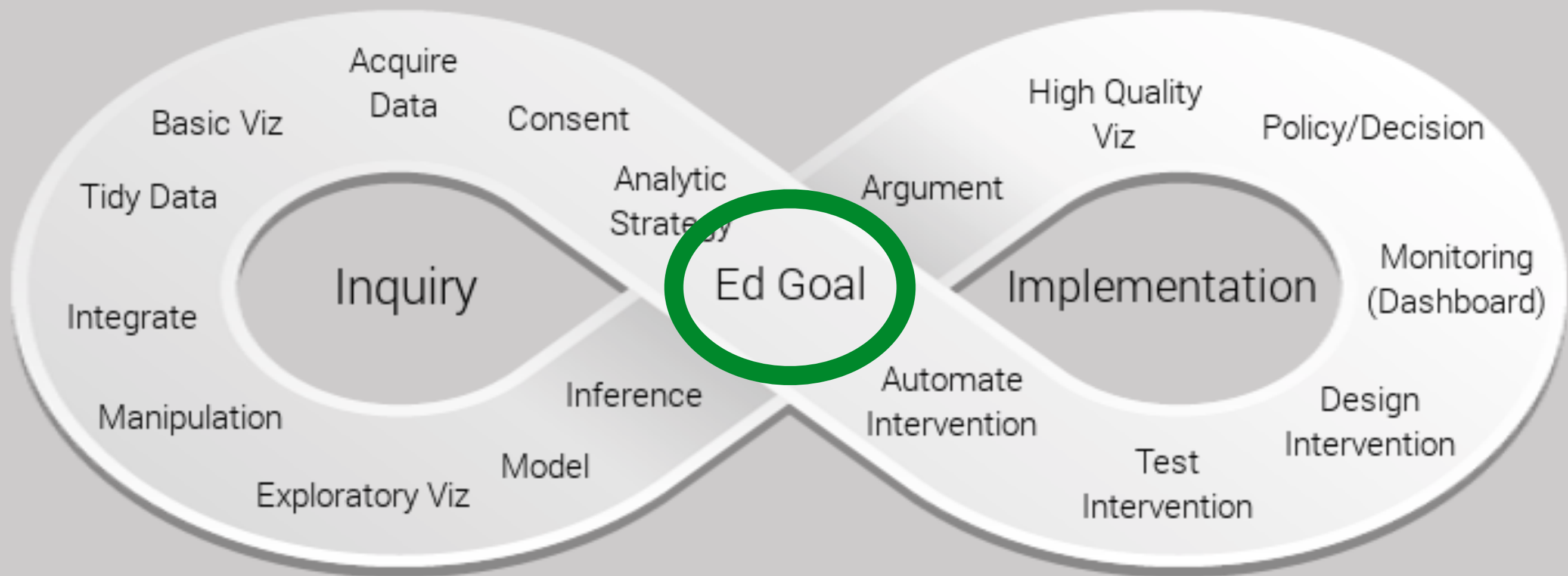
# People Don't Agree

- 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. Find a partner
2. Determine one educational goal that you would like to define for yourself, for this semester
3. What information would you need to allow you to determine if you had met that goal



# Vectr

- **Purpose:** To foster engagement in the wonderful world of data and education
- You should have received an email from Vectr this morning to log into the HUDK4050 Vector site
- Log in now
- Answer the Question in Vectr “What is one educational goal for HUDK4050 this semester and how could you measure it?”

# Vectr News

- Make sure you are logged in to your MyTC account
- Go to: <https://www.google.com/alerts?hl=en>
- Set up an alert for news for relevant search terms:  
“education data”, “learning data”, “edtech”
- Find an article you think is interesting
- 1. Post a question about it on Vectr
- 2. Answer someone else’s question



Git & Github

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

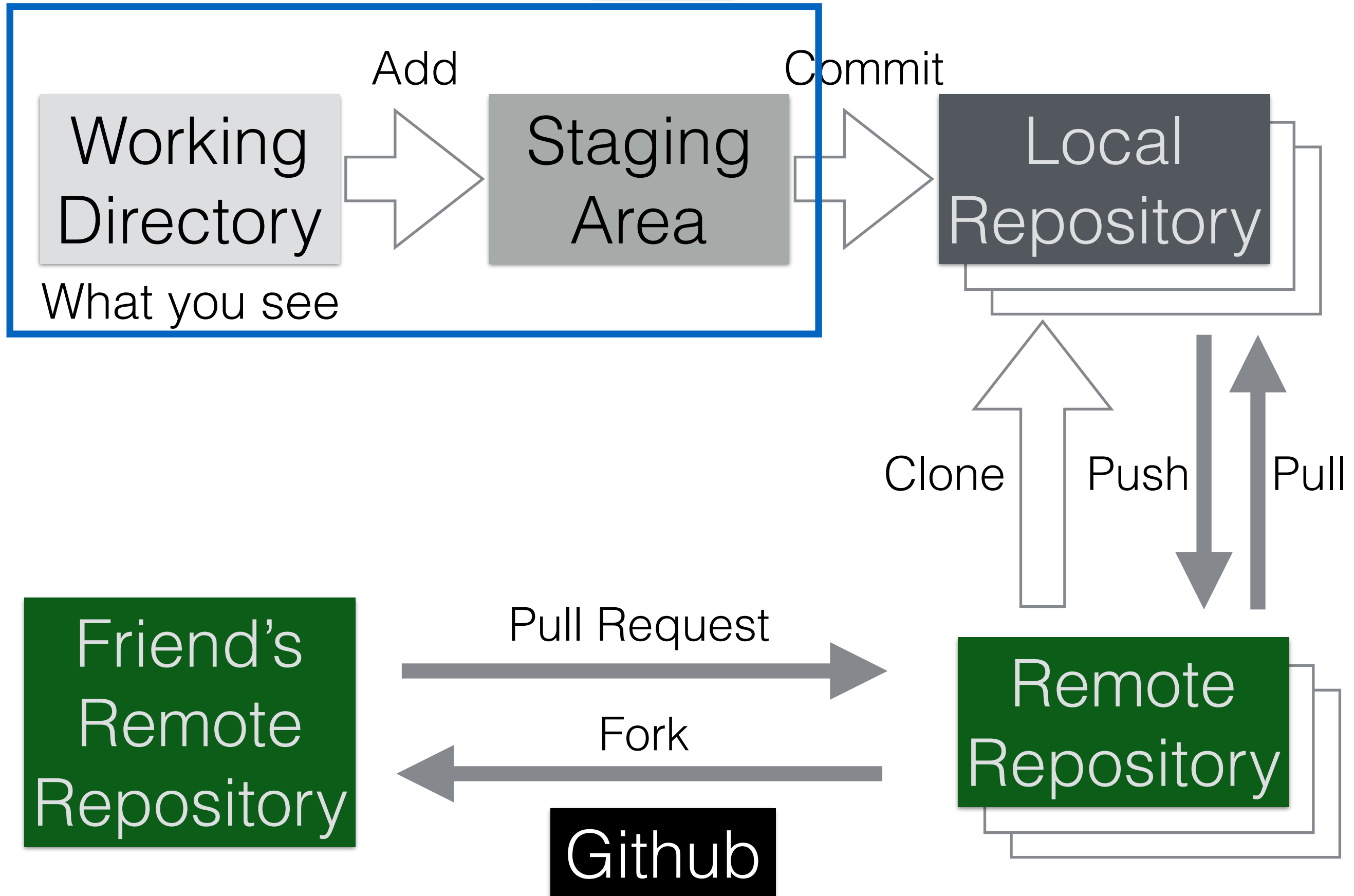
COOL. HOW DO WE USE IT?

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
- Describe the change you made in the message and click “Create Pull Request”
- Find an error in the syllabus file you would like to change 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