

# 5 THINGS TO CONSIDER WHEN COLLECTING DATA ONLINE

**SYDELLE DE SOUZA**

DOING RESEARCH IN NATURAL LANGUAGE PROCESSING

11/10/2024



**Hi,  
I'm Syd!**

Doctoral Researcher

CDT in NLP

([sydelle.desouza@ed.ac.uk](mailto:sydelle.desouza@ed.ac.uk))

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  - Compositionality
  - Analogical Reasoning

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- Research Experience
  - Experimental Morphology
  - Experimental Psycholinguistics
  - Machine Learning
  - Computational Modelling

**WHY COLLECT  
DATA ONLINE?**

# PROS



FASTER DATA  
COLLECTION



LARGER  
SAMPLES



COST  
EFFECTIVE



DIVERSE  
POPULATIONS

# CONS



COMPREHENSION



ATTENTION



HONESTY



RELIABILITY

# DATA QUALITY

Depends on:

- Comprehension
- Completeness
- Accuracy
- Representation
- Validity

Is the data fit for its intended purpose?  
Can you extract usable & valuable  
insights?



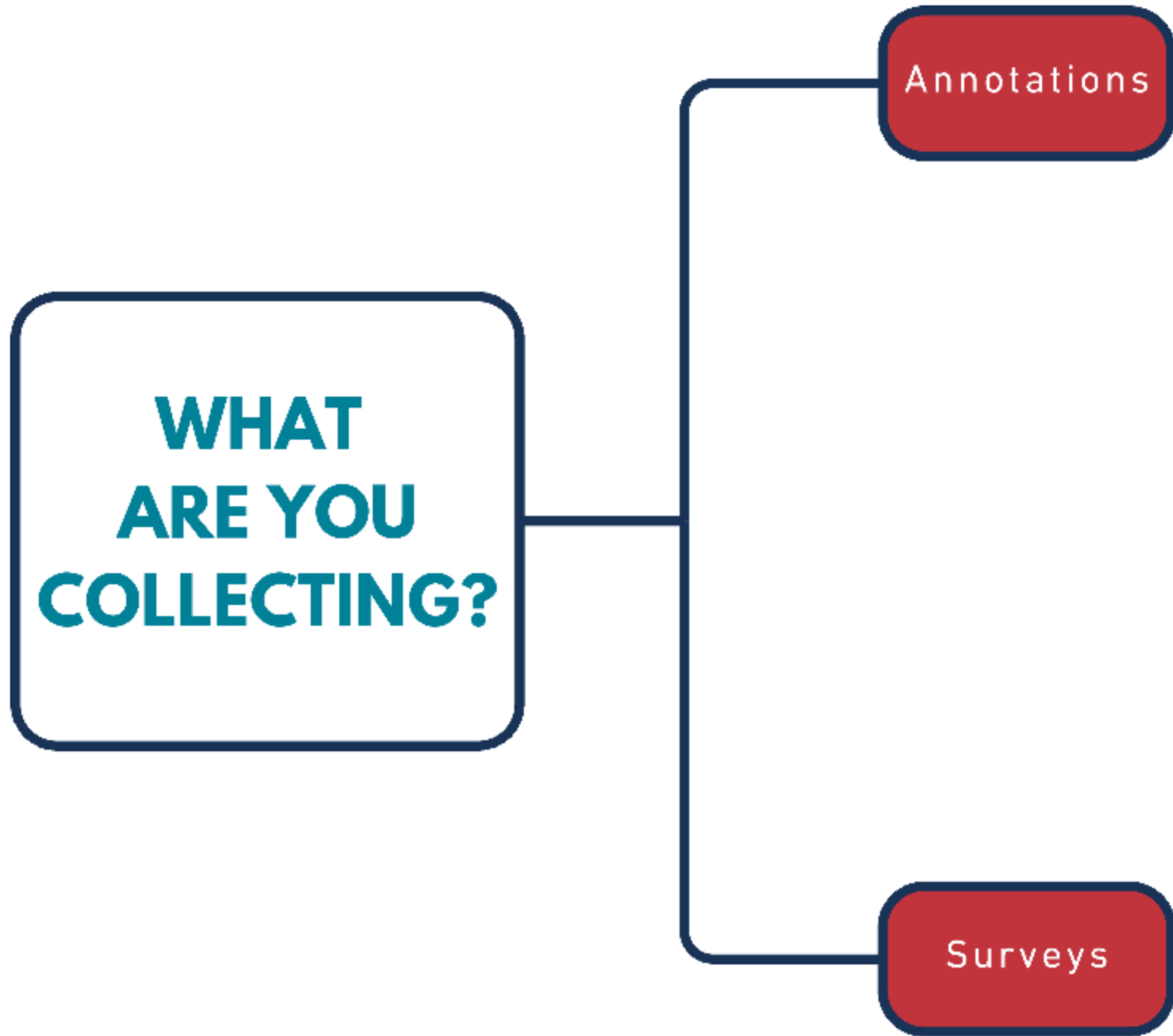
**WHAT CAN WE DO  
TO IMPROVE  
DATA QUALITY?**

**#1**

**#1**

**USE THE RIGHT  
TOOL FOR THE  
RIGHT JOB**

**WHAT  
ARE YOU  
COLLECTING?**



**WHAT  
ARE YOU  
COLLECTING?**

Annotations



prodigy



Surveys

qualtrics.<sup>XM</sup>

Typeform

# WHAT ARE YOU COLLECTING?

Annotations



Behavioral Data

Precision & Control

Moderate



Surveys



High

millisecond



**#2**



**#2**

**WELL  
DESIGNED IS  
HALF DONE!**

# BAD DESIGN LEAVES PARTICIPANTS...



CONFUSED



BORED



EXASPERATED



OUTRAGED



ENRAGED

# YOU WANT YOUR PARTICIPANTS TO BE...



RELAXED

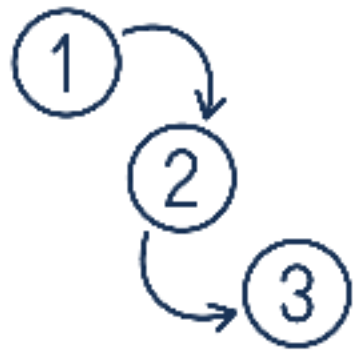


ENGAGED



MOTIVATED

# FOLLOW GRICE'S MAXIMS



CONCISE, CLEAR  
INSTRUCTIONS



ORDERLY  
TASK FLOW



KEEP IT  
SHORT &  
RELEVANT



KEEP IT  
SIMPLE

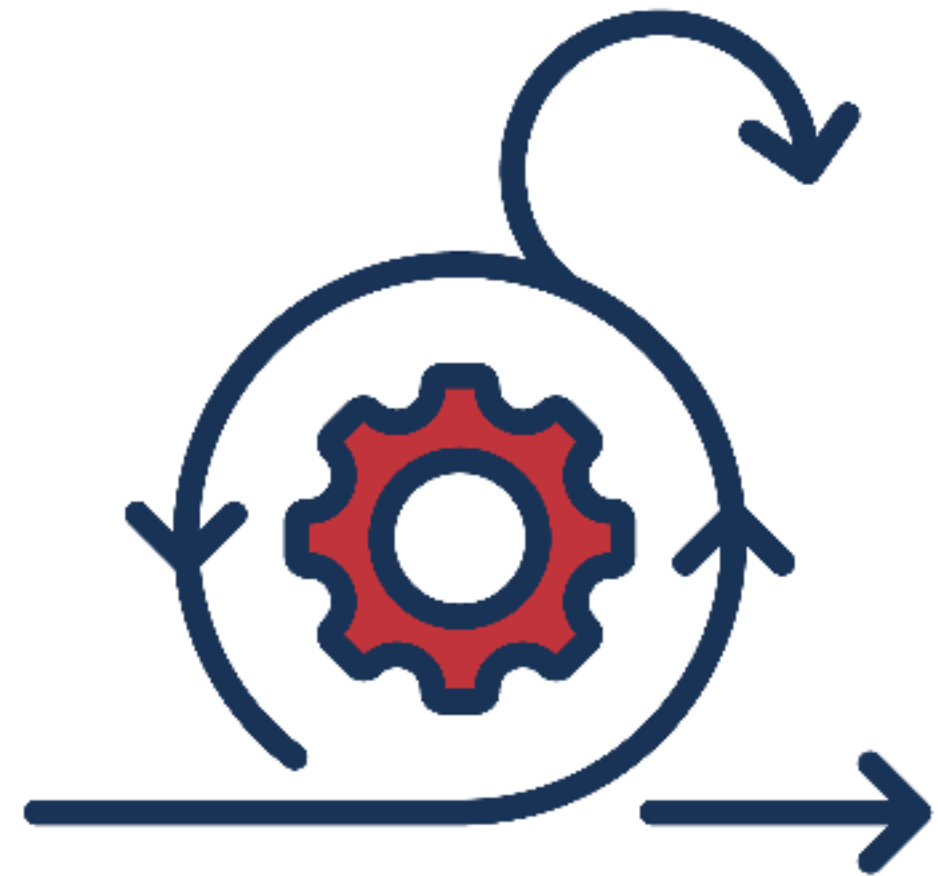
**#3**

**#3**

**PILOT TWICE,  
RUN ONCE!**

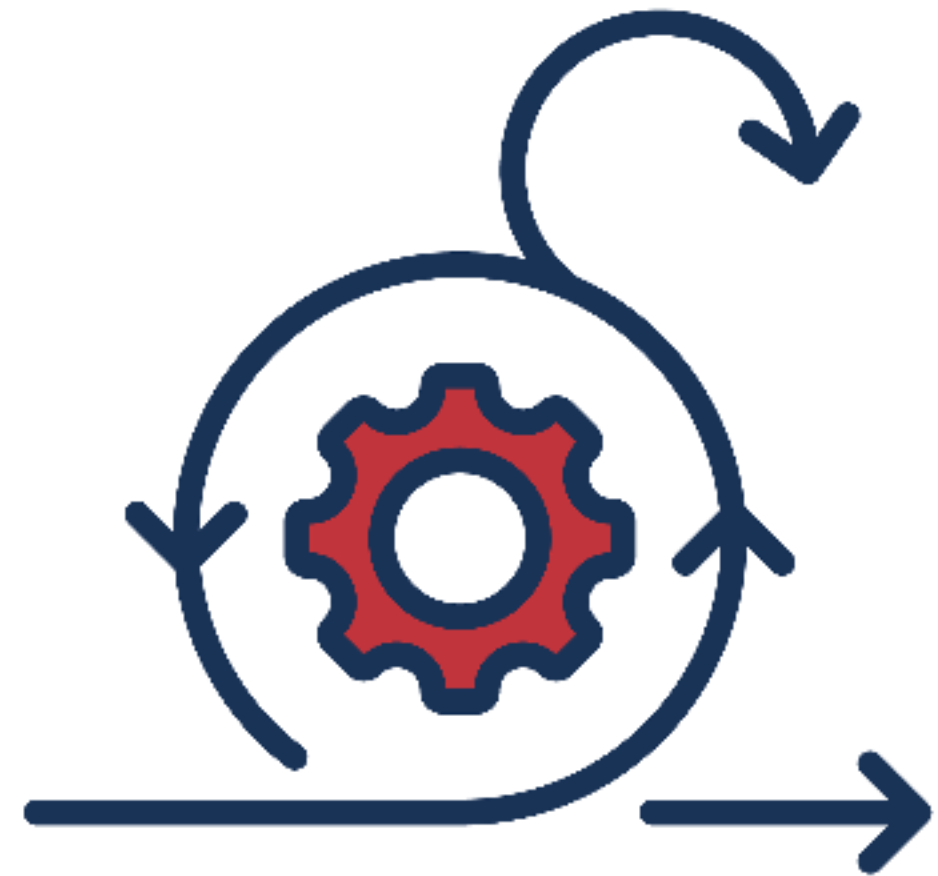
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- Before deployment:
  - Work out kinks in your design
  - Spelling & grammar checks
  - Inconsistencies in presentation



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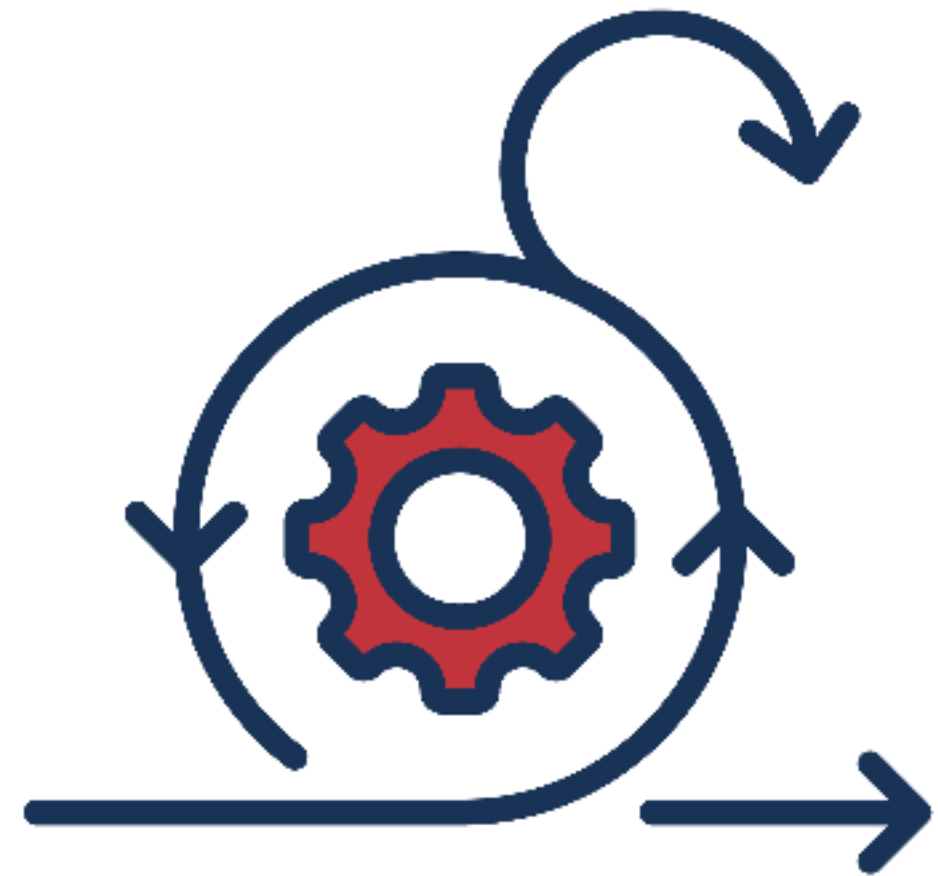
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- Pilot with experts AND non-experts





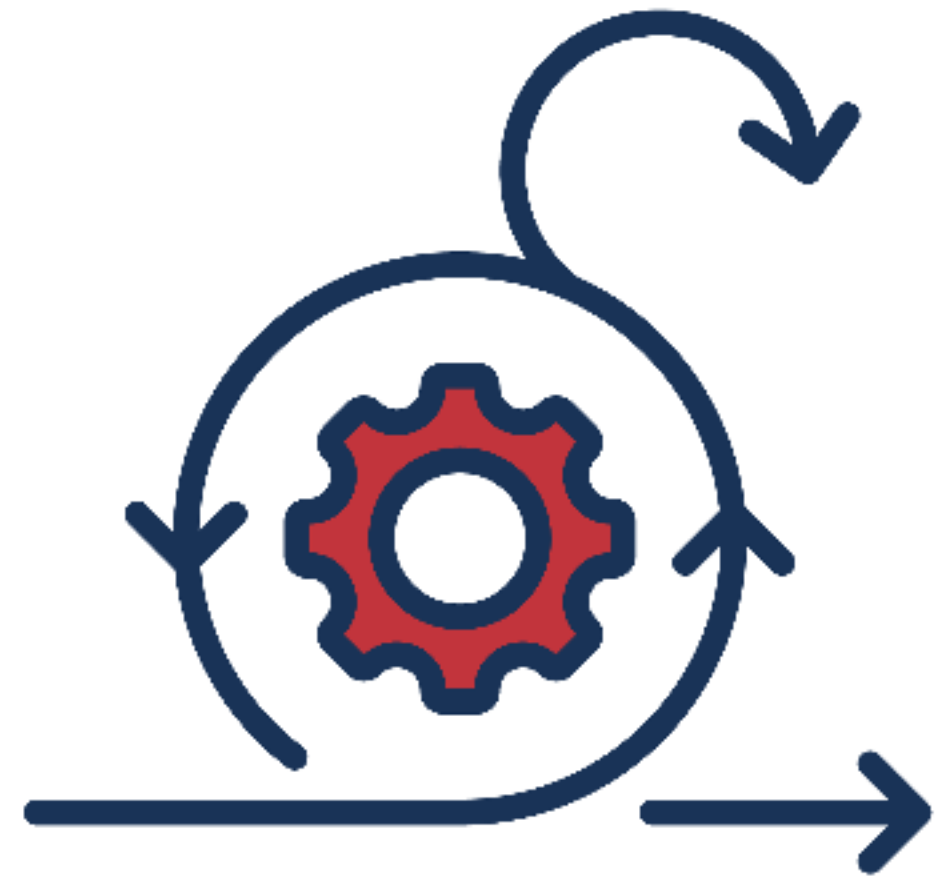
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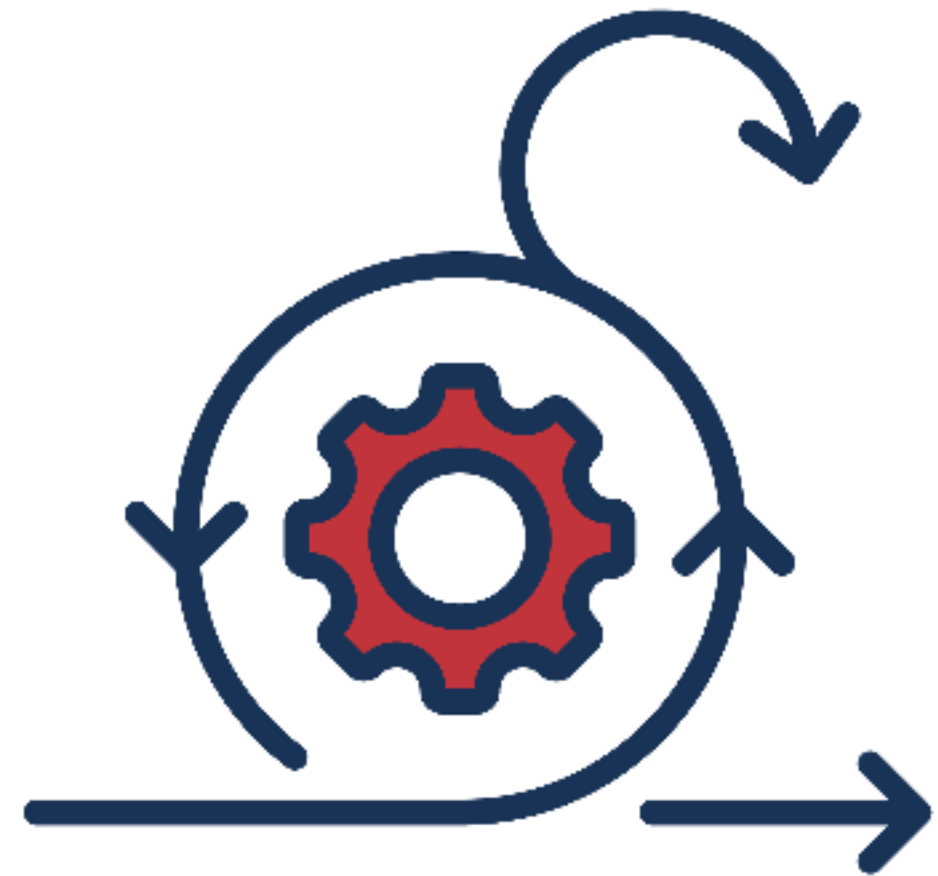
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- Get as much feedback as possible
  - IMPLEMENT IT!



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  - IMPLEMENT IT!
- Saves time & £££



**#4**

**#4**

**KNOW THY  
PARTICIPANTS**

# PRE-SCREENING

- Balanced and representative sample
- Ensure that your participants fit the profile of your target audience
- Pre-determine the demographic variables of interest.
- For example,
  - Age
  - Gender identity
  - First language
  - Employment status
  - Social media use



# PROFESSIONAL SURVEY TAKERS

- Non-naive participants are problematic!
  - Introduce biases
  - Reduce effect sizes
  - Provide poor responses
- Negatively impacts data quality



CHANDLER, J., PAOLACCI, G., PEER, E., MUELLER, P., & RATLIFF, K. A. (2015). USING NONNAIVE PARTICIPANTS CAN REDUCE EFFECT SIZES. PSYCHOLOGICAL SCIENCE, 26(7), 1131–1139.

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WATCH: [HTTPS://WWW.PBS.ORG/NEWSHOUR/SCIENCE/INSIDE-AMAZONS-HIDDEN-SCIENCE-FACTORY](https://www.pbs.org/newshour/science/inside-amazons-hidden-science-factory)

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watch  
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**#5**

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**YOU GET WHAT  
YOU PAY FOR**

# COMPENSATION

- Participants expect to be paid for their time!
  - Choose the right incentive
  - Consider a performance bonus



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- An attractive reward == increased motivation
  - Reduces drop-outs



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- An attractive reward == increased motivation
  - Reduces drop-outs
- Poorly thought-out incentives can skew decision making



 GOLDEN RULE:

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**DO UNTO OTHERS...**



# FOR ANNOTATION TASKS:

**prodigy**



**FOR EVERYTHING  
ELSE:**



Definitive human data to deliver  
world-leading research and AI



# 10/10 DO NOT RECOMMEND:



**HERE'S MY ATTEMPT!**

**LINK**

# RESOURCES

- Collecting behavioral data online (APA)
- So, you want to run an online experiment?
- nodeGame **Online Real-Time Synchronous Experiments**
- **Survey data quality: The 4 factors that matter most to researchers**
- Reddit discussion on survey platforms
- **How to Make \$50 a Day on MTurk: How is everyone doing it?**
- **How to increase participant attention in online experiments**
- **Pay Fairness**

ook!

