

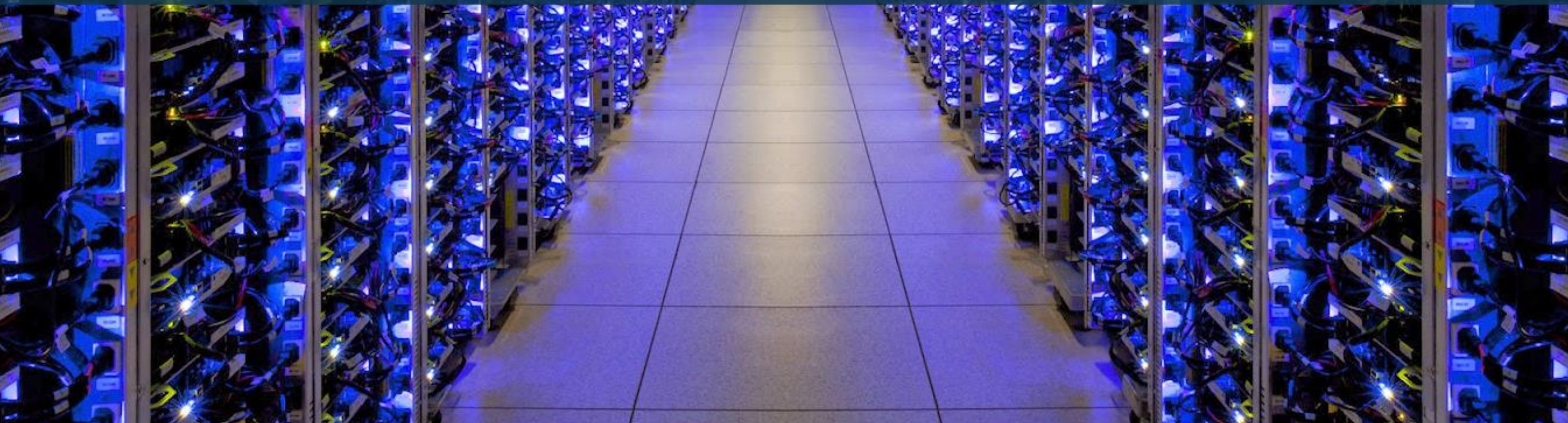
Learning Analytics: a Pragmatic Pilot



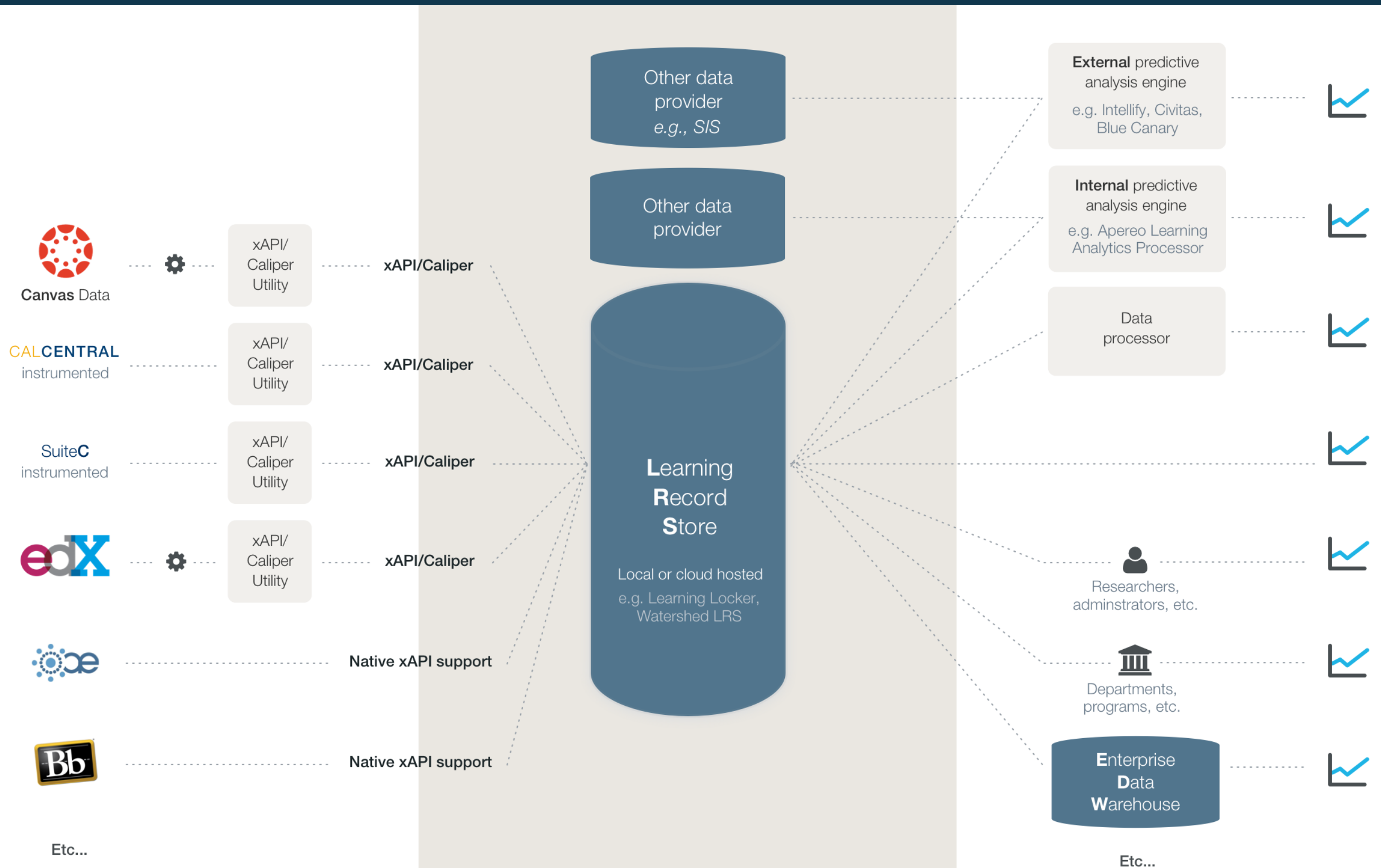
Learning Analytics: a Pragmatic Pilot



Infrastructure



Ecosystem



Learning Record Store

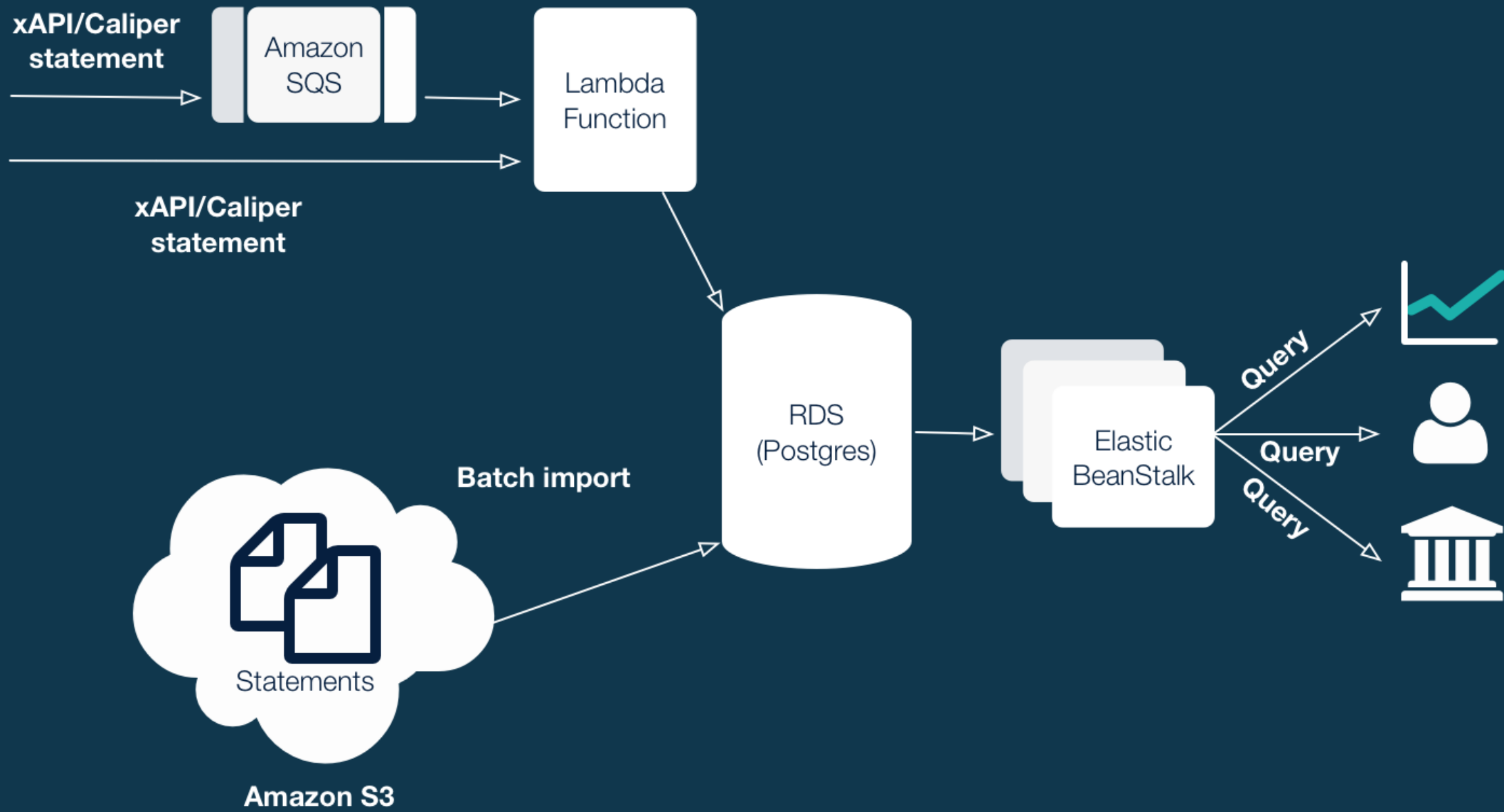
- **Amazon Web Services-based** Learning Record Store
- **Multi-tenant** LRS that can support multiple institutions at once
- **Scalability** and **cost**

xAPI - Caliper utility

- Utility to help transform learning activities into xAPI and Caliper
- Instrumenting other applications
- <https://github.com/ets-berkeley-edu/xapicaliper>

Instructure Canvas

- Scripts to convert Canvas Data to **standards compliant** Learning Activities
- **1+ billion** Learning Activities for 3 years of data
- <https://github.com/ets-berkeley-edu/canvas-data-processor>



Campus Concerns



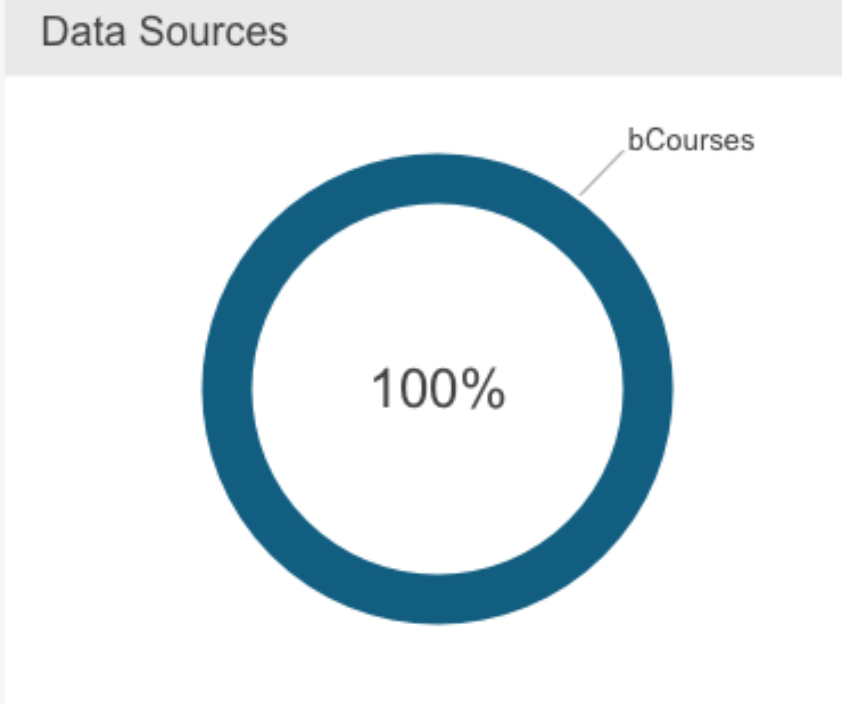
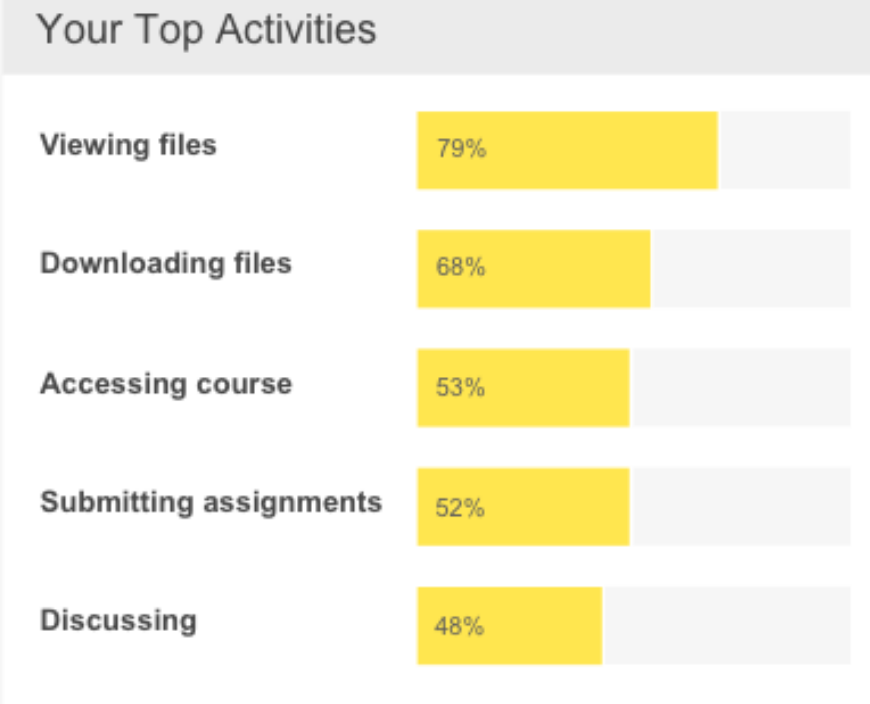
Privacy and Transparency

- Ability for students to see their **own data**
- Ability for students to see **what their data is being used for and by whom**
- Ability for students to **opt out** of some of the uses of their data
- Ability to distribute data in **anonymized** format for research purposes

Profile » My Data

About

The University captures data about your usage on various systems. Continuing usage aims to help you make informed decisions around your academic life by feeding this data back to you in helpful ways.



Activity Stream

09:25pm	Dec 9, 2015	You viewed the file 'Kitties' on bCourses .
09:22pm	Dec 9, 2015	You downloaded the file 'dogs' in the course 'Cute Animals' on bCourses .
09:21pm	Dec 9, 2015	You accessed the course 'Cute Animals' on bCourses .
09:22pm	Dec 9, 2015	You downloaded the file 'dogs' in the course 'Cute Animals' on bCourses .
09:22pm	Dec 9, 2015	You downloaded the file 'cats' in the course 'Cute Animals' on bCourses .
09:21pm	Dec 9, 2015	You accessed the course 'Silly Animals' on bCourses .
09:20pm	Dec 9, 2015	You downloaded the file 'chickens' in the course 'Cute Animals' on bCourses .
09:19pm	Dec 9, 2015	You downloaded the file 'dinosaurs' in the course 'Silly

Use Of Your Data

PROJECTS

SHARE YOUR DATA

Professor Zach Pardos Data Research project

This Research project aims to 'goal: Lorem ipsum'. Data that will be extracted is 'lorum ipsum'. Your data will be used for 'lorum ipsum'. Your name won't be identified.

☒

Athletic Study Centre and Educational Technology Services project

This Research project aims to 'goal: Lorem ipsum'. Data that will be extracted is 'lorum ipsum'. Your data will be used for 'lorum ipsum'. Your name won't be identified.

☒

John Scott and Glynda Hull's Engagement Index

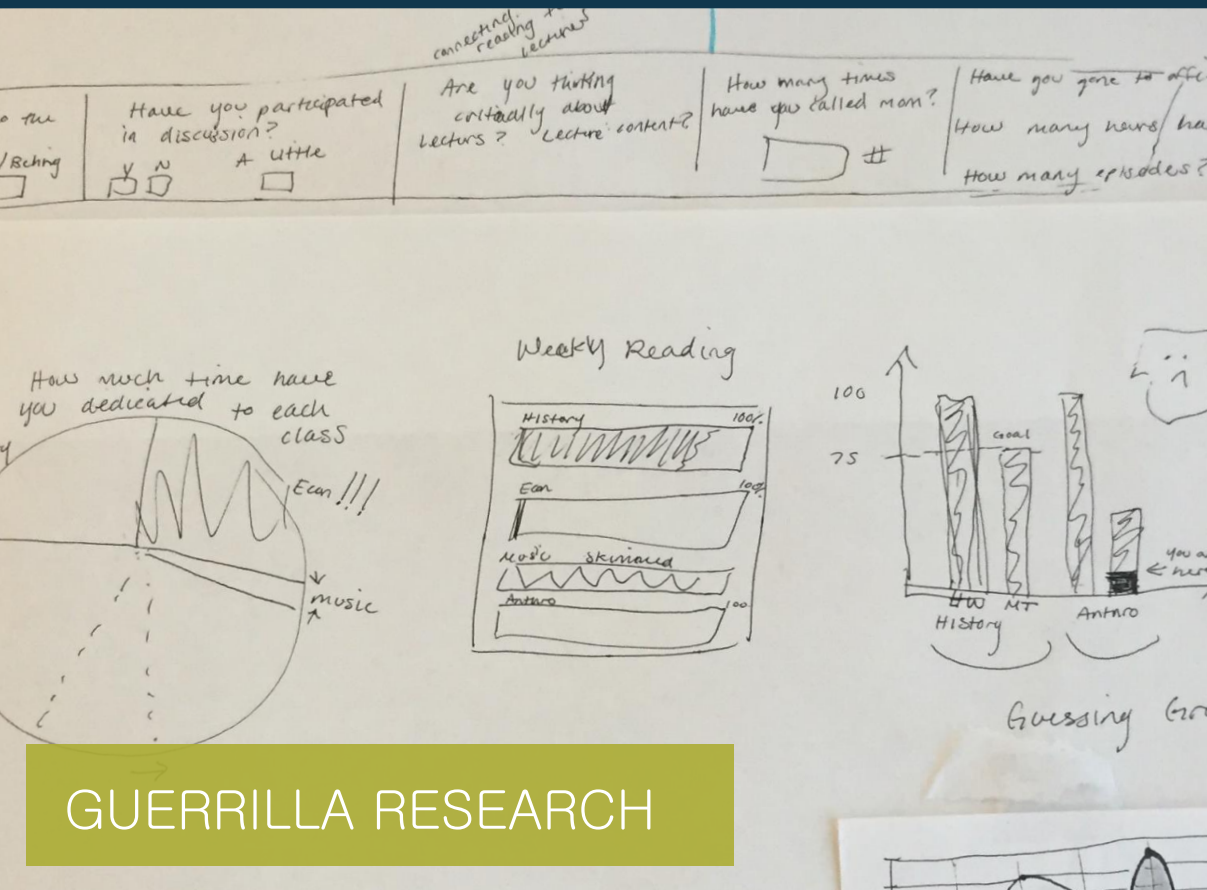
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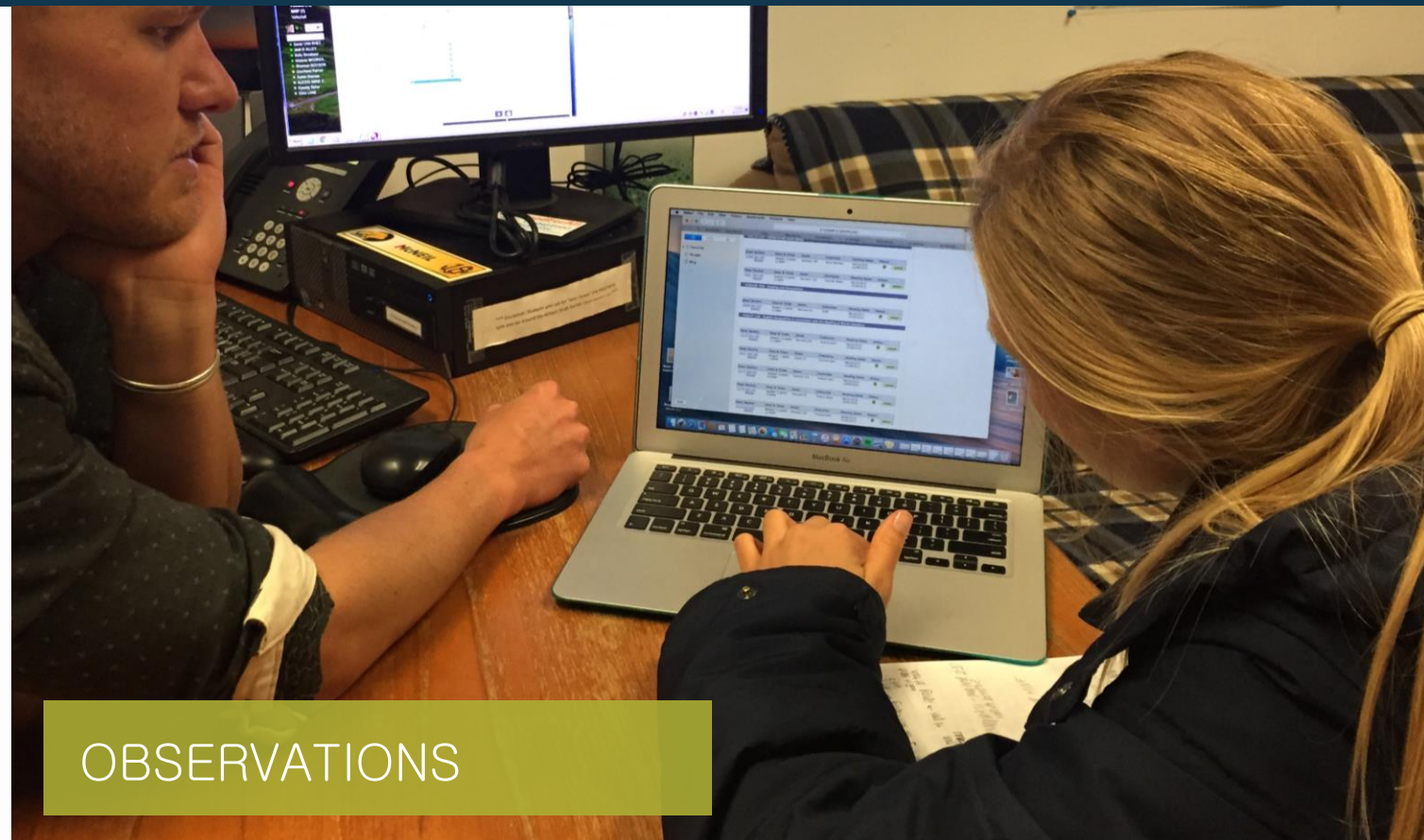
A photograph of three young adults in an outdoor setting. In the center, a young man with dark curly hair and a goatee, wearing a dark blue t-shirt, is smiling and looking towards a young woman on his right. The woman has dark, wavy hair and is wearing a bright yellow t-shirt with a key necklace; she is also smiling. To the left, the back of a young woman with long blonde hair wearing a black t-shirt is visible. They are standing in front of a stone wall and some greenery. A semi-transparent dark blue horizontal band is overlaid across the middle of the image, containing the text "Use Cases" in white.

Use Cases

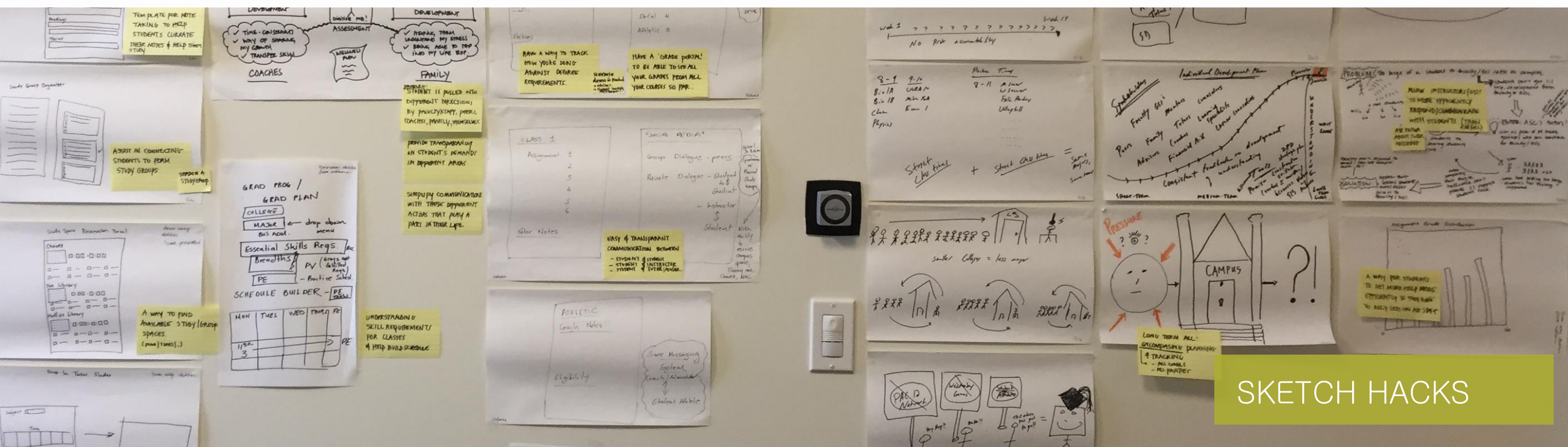
UX research



GUERRILLA RESEARCH



OBSERVATIONS



SKETCH HACKS

UX research outputs



Some background

My dad died last summer and I'm having a hard time focusing on my work. I'm having trouble managing everything and could really use some personal help, although I'm not entirely sure where to get started.

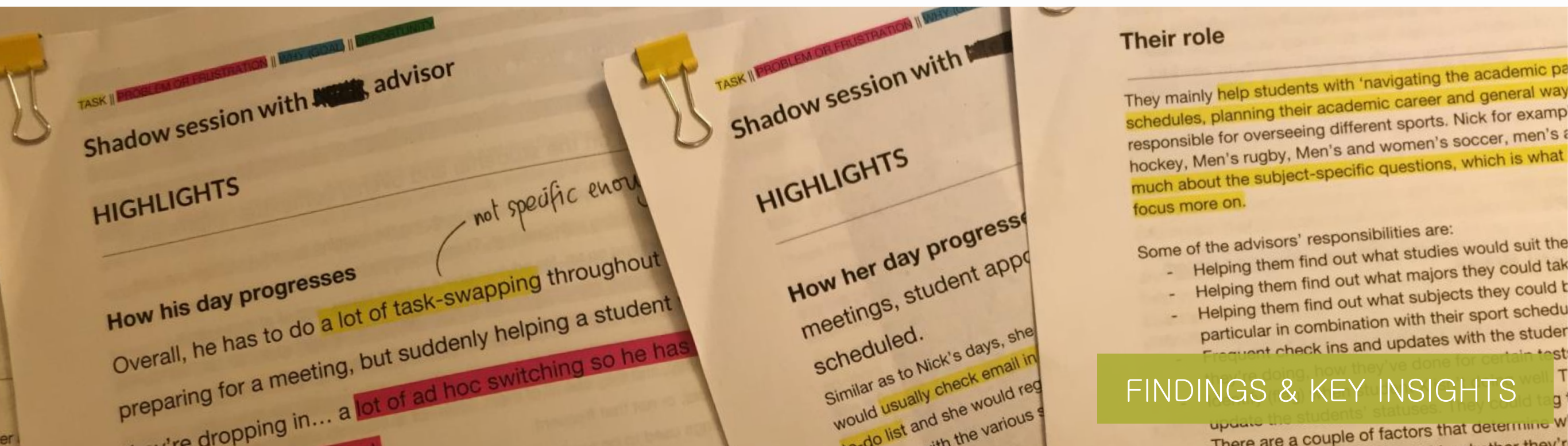
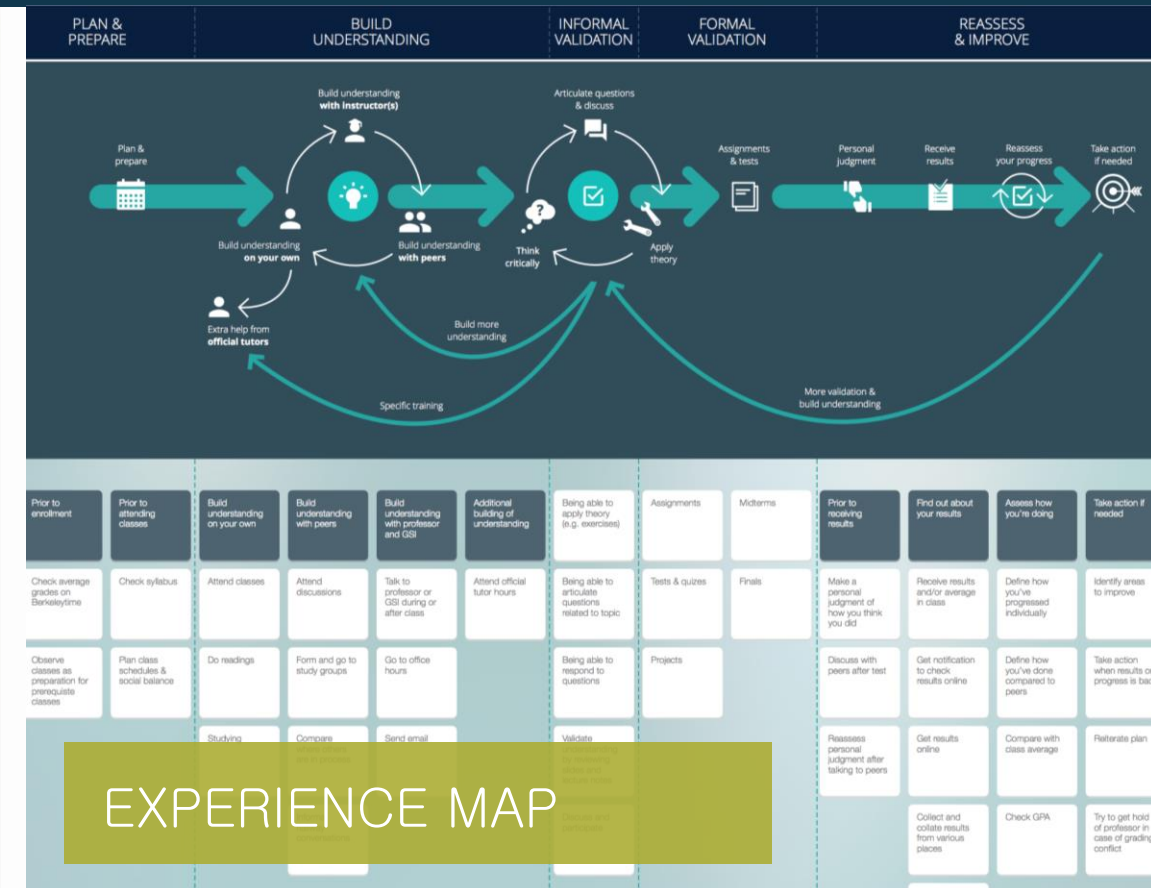
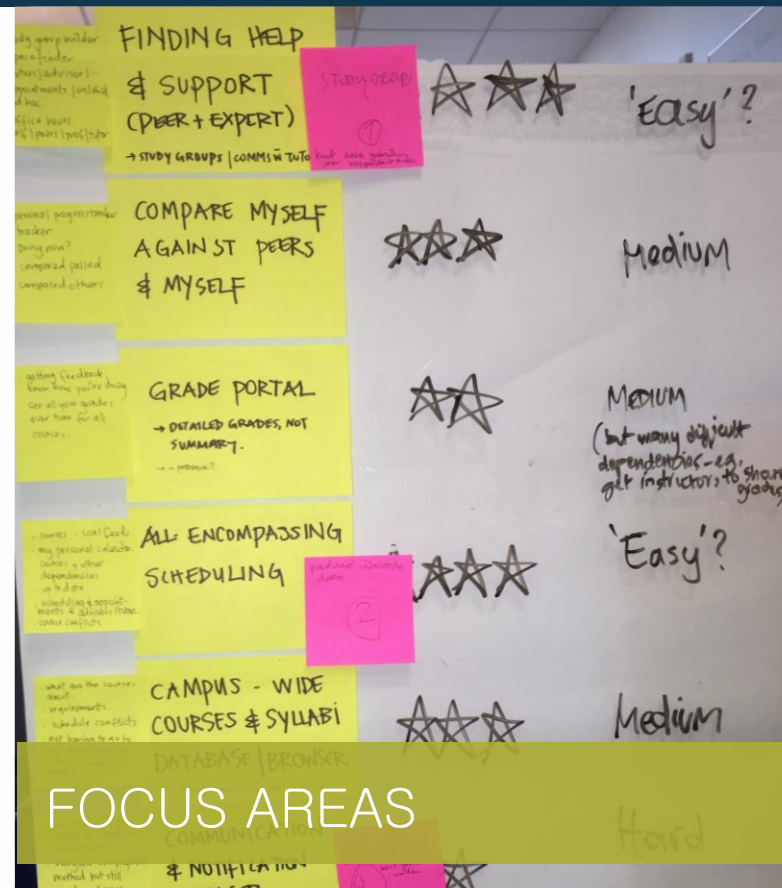
My goals

I've always had this dream to become a great architect, but it's really difficult to keep track of everything now. After all, family comes first. I'll already be happy if I pass without too much delay and stress.

What's difficult or annoys me

- It's hard to keep track of what's happening when and what's most important. I'm scared of missing out on things.
- There's so much going on, and I probably need help, but I don't even know what kind of help is out there and what I'm capable of.
- I'm sometimes missing classes, even though I don't want to, but it's just impossible to combine it all. This also means I don't know a lot of my classmates. I don't have time to talk to them all, and I don't know who I should be forming study parties with.
- Comparing herself with others is the least of her worries. She knows she's at the bottom of the list anyway, it's all about survival.

PERSONAS



The Experience of Understanding

Emotional engagement

A course

As long as I'm disciplined, studying on my own isn't too bad.

It can be hard to form study groups.

Discussions and study groups are informal, unthreatening ways to identify gaps in your understanding.

It can be difficult to approach professors as they can be intimidating or office hours can clash.

'Understanding' is a great feeling!

'Not understanding' can be demotivating.

Tests can be stressful, but I should do well if I studied enough.

It's sometimes hard to get a sense of how you've done.

It can take a long time for results to come back and they often have to be collected from different places.

It's not always clear whether and how to get help.

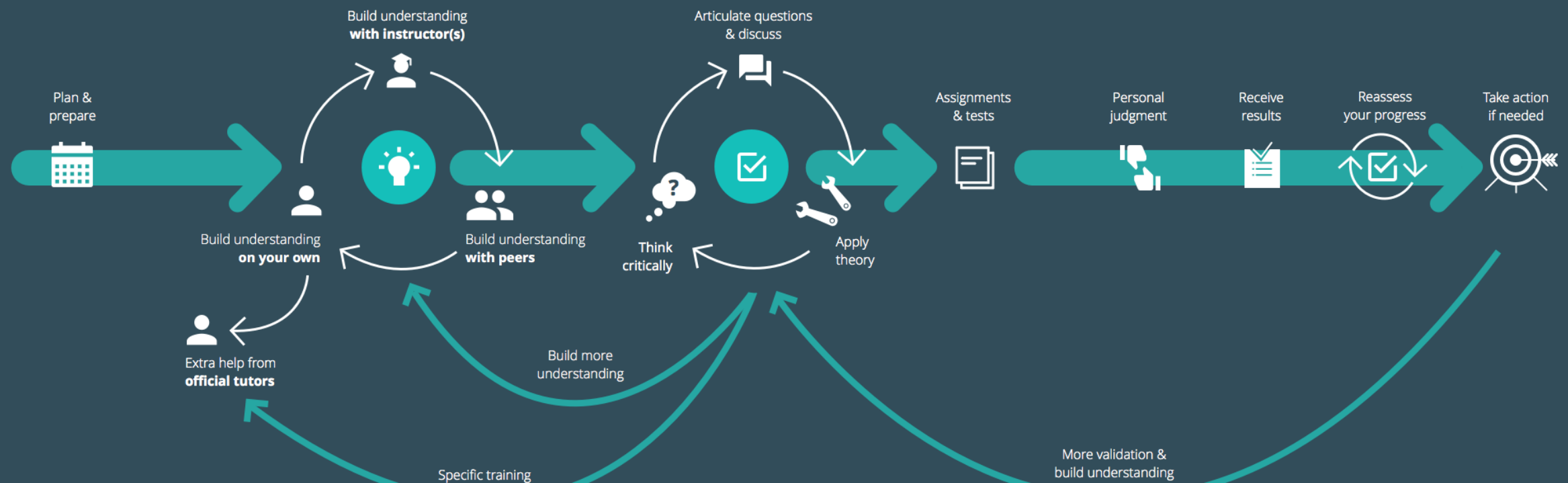
PLAN & PREPARE

BUILD UNDERSTANDING

INFORMAL VALIDATION

FORMAL VALIDATION

REASSESS & IMPROVE



Phases

Advisor dashboard

Admin



Dashboard



Courses



Calendar



Inbox



Commons

Men's Rugby

Men's Soccer

Women's Soccer

Men's Tennis

Women's Tennis

**Women's
Basketball**

Men's Cross
Country

Women's Cross
Country

Men's Track and
Field

Women's Track
and Field

Men's Crew

Women's Crew

Men's Basketball

Men's Football

Men's Golf

Women's Golf

Student engagement vs grades performance (compared to their cohorts)

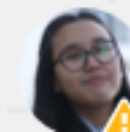
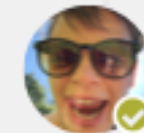
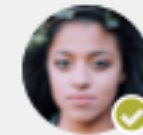
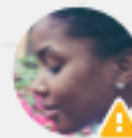


Engagement

Above
avg

Avg

Below
avg



Account

Admin

Dashboard

Courses

Calendar

Inbox

Commons

Help

ASC Advising

Projects

Home

Women's Field hockey

Men's Rugby

Men's Soccer

Women's Soccer

Men's Tennis

Women's Tennis

Women's Basketball

Men's Cross Country

Women's Cross Country

Men's Track and Field

Women's Track and Field

Men's Crew

Women's Crew

Men's Basketball

Men's Football

Men's Golf

Women's Golf

Men's Gymnastics

Women's Gymnastics

Women's Lacrosse

Men's Baseball

Women's Softball

Women's Volleyball

Men's Swimming and Diving

Women's Swimming and Diving

Men's Water Polo

Women's Beach Volleyball

People

Settings

ASC Advising > Women's basketball

Women's basketball

Student engagement vs grades performance (compared to their cohorts)

Engagement

Grades

Johanna Crossman

Engagement

Across all her active courses, Johanna's online engagement is 34% above average.

Grades

Across all her active courses, Johanna's known grades are 12% above average.

Known grades (avg)77%C

Cohorts known grades (avg)82%B+

View details

Account

Admin

Dashboard

Courses

Calendar

Inbox

Commons

Help

ASC Advising

ASC Advising > Women's basketball > Johanna Crossman

Johanna Crossman

Summer 2016

Student

Cohorts' average

Engagement (per week)

Grades (per week)

Engagement per course

Math 1B: Calculus

Units: 4When: MWF 11-12pmInstructor: HALD, OH

Total activities58058539

Activities in the last week14021968

Tool with most activityAssignmentsEngagment Index

View details

Assignments and grades per course

French 118B: 18th Century Literature

Units: 4When: T12:30-2pmInstructor: Maslan, S ANext due date: Monday 11 April (midterm)

Student's average score71%C

Class average89%B+

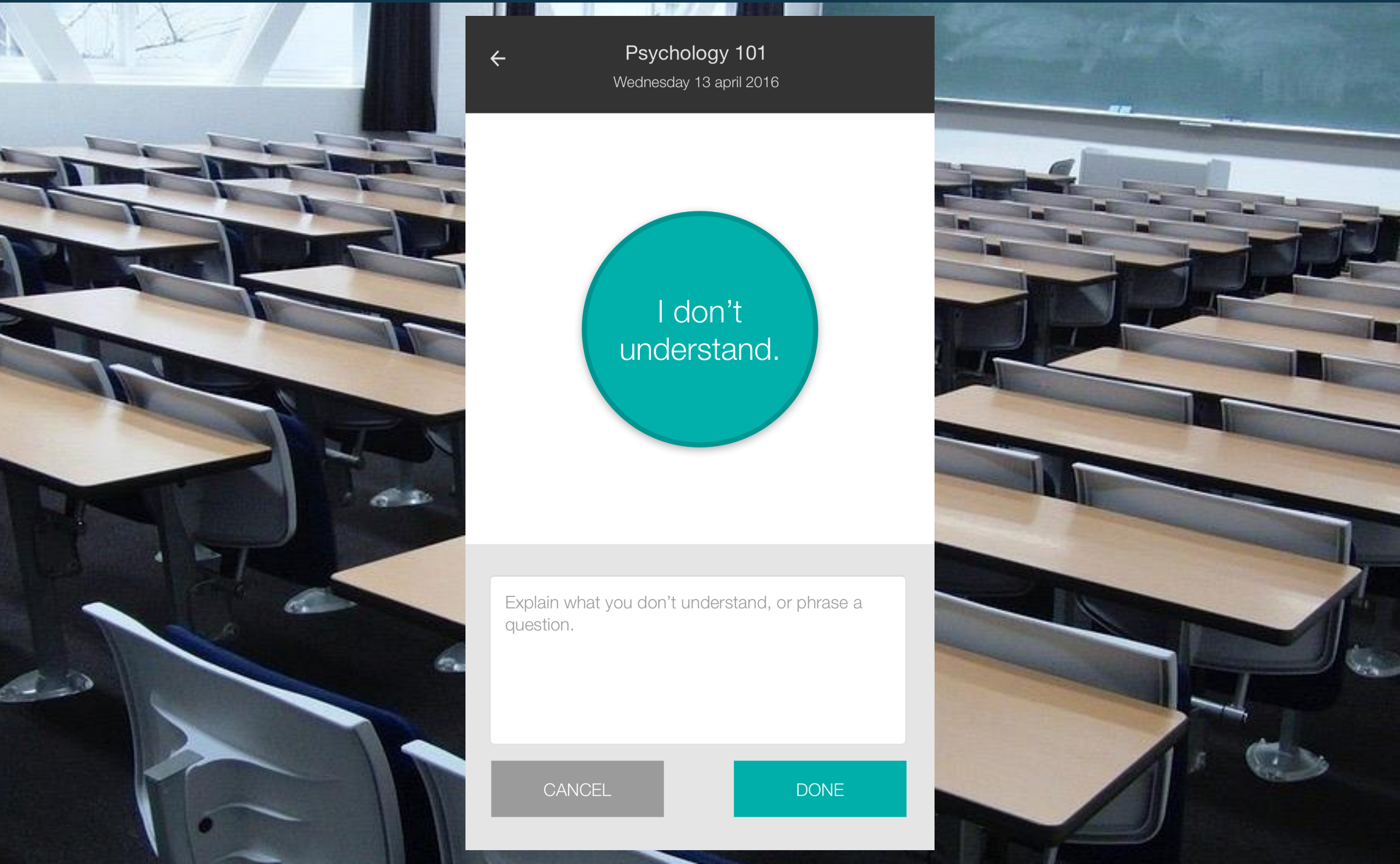
Minimum score65%C-

Maximum score94%A

Median85%B

View details

SOS app (Real time interaction during class + help & support)



Psychology 101

Wednesday 13 april 2016

I don't
understand.

Explain what you don't understand, or phrase a question.

CANCEL

DONE

← My courses

Psychology 101

Research & data analysis in Psychology

Week 1

Week 2

Week 3

Week 4

Week 5

Week 6

Week 7

Week 8

Week 9

Week 10

Week 11

Week 12

Week 13

Week 14

Psychology 101: Research & data analysis in Psychology

Wednesdays 9.00AM-11.00AM

Week 9 unclarities: The sampling distribution of the mean



Your courses

Psychology 101

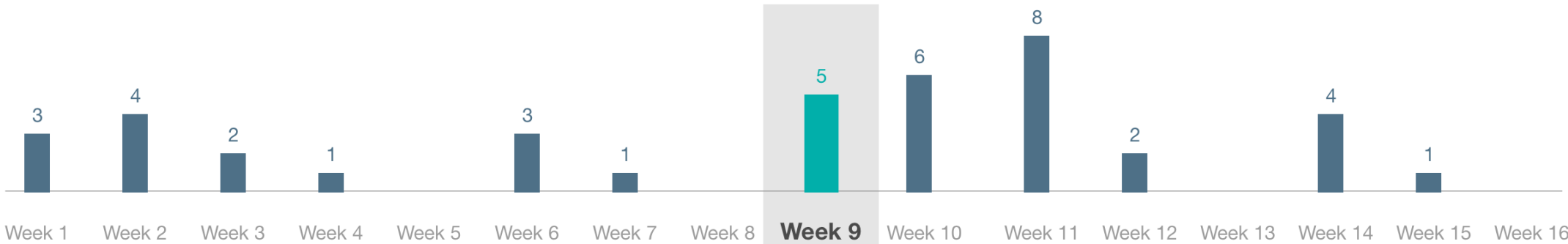
Psychology 105

Calculus 39P

Education 137

Psychology 101: Research & data analysis in Psychology

Wednesdays 9.00AM-11.00AM



Week 9 unclarities: The sampling distribution of the mean

