

Making education more personal

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Our team





**Scale meaningful
interactions in
education**

How do people interact in large lectures or online courses?



Scale meaningful
interactions in
education

What do people value most about
the educational experience?



Scale **meaningful**
interactions in
education

Needfinding process

Stakeholders

students

**professors
& educators**

**people in online
education space**

Stakeholders

students

professors
& educators

people in online
education space



PhD student
@ Berkeley



MBA student
@ SF state



(former)
student @ UC
Riverside



(former)
student @ MIT



(former)
post-doc
@ Oxford

Stakeholders

students

professors
& educators

people in online
education space



Lecturer
@ Stanford



Educator
@ Palantir



(former) educator
@ the Exploratorium

Stakeholders

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Developer
@ Coursera

Interview questions

broad



focused

**“Tell us about a time you had a great
classroom experience...”**

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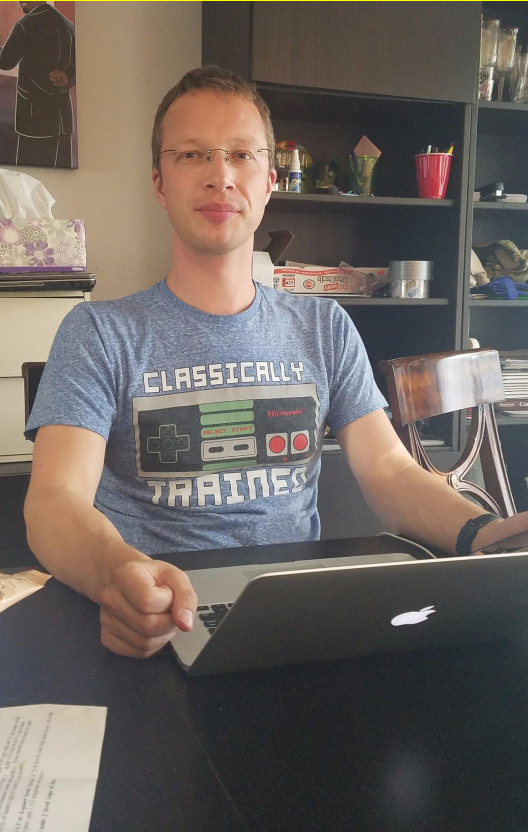
“What factors do you feel contribute most to your learning?”

“Tell us about a time you had a great classroom experience...”

“What factors do you feel contribute most to your learning?”

“In large classes, how do you evaluate whether or not students have met course objectives?”

Interview techniques



In person interviews

- Existing connections
- Snowball sampling

Interview techniques



Skype interviews

- Allowed us to connect with people from diverse backgrounds/locations

Interview techniques



(our favorite) Recruiting strangers w/ Hope's puppy

- Sat in areas with lots of students, found that people *wanted* to approach us

Interview findings



“Having a small class size doesn’t matter unless the professor is good.”



“Having a small **class size** doesn't matter unless the professor is good.”

Finding:

Class size isn't as important as we originally thought.



“As you go from
5 → 50 → 500 → 5000 students,
you completely lose the ability to
give human feedback.”



“I really valued when my
professors took the time to
help me one-on-one.”



“Getting feedback throughout
on how students were doing
helped reassure me that they
got the concepts.”



“As you go from
5 → 50 → 500 → 5000 students,
you completely lose the ability to
give human **feedback**.”



“I really valued when my
professors took the time to
help me **one-on-one**.”



“Getting **feedback** throughout
on how students were doing
helped reassure me that they
got the concepts.”

Finding:
**Feedback is
very valuable.**



“[In an online classroom experience] everyone can learn at their own pace. But we have to keep up the illusion that they’re not.”



“[In an online classroom experience] everyone can learn **at their own pace**. But we have to keep up the illusion that they’re not.”

Finding:

Students want flexibility in their learning, but too much can be detrimental.



“Everyone being somewhat **challenged** by material gave some sense of **community**.”



“My professor would **turn off the wifi** in the classroom to force us to stay **engaged**.”



“Everyone being somewhat **challenged** by material gave some sense of **community**.”



“My professor would **turn off the wifi** in the classroom to force us to stay **engaged**.”

Finding:

Adding challenges can drive engagement.

Analysis and interpretations



Say



Think



Do



Feel



Say

"I like to feel like I contributed to the class discussion. I engage by saying meaningful stuff."

"You lose the apprenticeship model in large classrooms."

"If I feel stupid, it's probably my own fault."

"I didn't really enjoy going to lectures as a student. I didn't find it as useful as independent study, working on projects."

"I can't do online classes, I need to be with other people."

"I don't know if it was overwhelmed, but it was tending in that direction. There were a lot of people to help, and not enough of me."

"I like wrestling with the material."

"My ideal classroom is very interactive and discussion based."

"The class was so large, I couldn't find anyone to work with."

"I need to have full attention, be captured and be looking forward to the next day."



Do

Make sure every single question is geared towards a particular concept in the problem set

Refrain from asking questions in a large class if they think others know the material better

Reach out to course staff when they're confused about a concept

People's eyes light up and they get excited when remembering a good educational experience

Stop going to lecture if they feel like it's not useful

Reach out to individual students if they're struggling

Find or make friends with other students and work through the class together

Try and give direct feedback when possible

Read the students' code over their shoulders as they were helping them to debug



Think

I value the support system around my education, people care if I fall behind

I learn best when I'm working with other people

I wish I could engage with more students one on one, too many students

I want my students to care about the material - "What was the major turning point for a student?"

I want to make my professor think. I value contributing meaningfully to the class

I learn best when the professor engages the class with interactive activities

I prefer learning from others and collaborating rather than being subjected to a lecture

I shouldn't waste other students' time if I'm behind. I should put more work in to catch up.

A small classroom is more personal, but also more competitive



Feel

Happy when students are engaged and learning

Overwhelmed when helping large number of students

Bored in classes where the professor wasn't engaging/didn't care, regardless of class size

Confident when well prepared to teach a class

Stressed when having to balance school and working full time

Lost when they're taking a class and they don't know anyone

Ashamed when taking up lecture time with questions

Annoyed when they know the class material already and have to sit through lecture

Nervous when put on the spot to solve a problem in front of the class

Uncomfortable not paying attention to the professor in a small classroom



“You lose the apprenticeship model in large classrooms.”

“Getting feedback throughout on how students were doing helped reassure me that they got the concepts.”



When teachers reach out and tell me how I’m doing, it feels like my learning is important to them

I wish I could engage with more students one on one, too many students



Try and give direct feedback when possible

Read the students’ code over their shoulders as they were helping them to debug



More confident when you know how you’re doing relative to other people

Happy when students are engaged and learning

Observation:

Both students and teachers feel that constant feedback is important, but more difficult to achieve as class size increases

Interpretation:

People learn more effectively when they care about how they're doing

Need:

Confidence that learning objectives are being met



"I didn't really enjoy going to lectures as a student."

"In a small classroom, I miss the ability to look at Facebook without the professor noticing."



I prefer learning from others and collaborating rather than being subjected to a lecture



Stop going to lecture if they feel like it's not useful

Reach out to course staff when they're confused about a concept



Discouraged if they fell behind or couldn't work ahead (in an online course)

Observation:

Students want to have the flexibility to do what they want in class

Interpretation:

People value feeling in control of how they learn

Need:

A sense of agency over one's own education



"I like to feel like I contributed to the class discussion. I engage by saying meaningful stuff."

"Having a small class size doesn't matter unless the professor is good."



I want to make my professor think. I value contributing meaningfully to the class

A small classroom is more personal, but also more competitive



Refrain from asking questions if they think others know the material better



Ashamed when taking up lecture time with questions

Nervous when put on the spot to solve a problem in front of the class

Observation:

Students don't ask questions if they feel others know the answer, even in small classrooms

Interpretation:

Students want to contribute without feeling judged

Need:

A way to build relationships and trust in classrooms of all sizes

What do people value most about
the educational experience?



Scale **meaningful**
interactions in
education

Feedback, sense of
agency, community



Scale meaningful
interactions in
education

Thank you!
Questions?