Lessons Learned from Teaching MOOCs at Liberal Arts Colleges:
Reflections on *Data Visualization for All*

Jack Dougherty, Trinity College CT
Blended Learning in the Liberal Arts Conference
at Bryn Mawr College, May 17, 2017

@DoughertyJack   http://bit.ly/blended-2017

When *The New York Times* declared 2012 as the "Year of the MOOC," did your institution climb aboard or step away? (Kolowich 2012, Rivard 2013, Straumsheim 2015)

When *The New York Times* declared 2012 as the "Year of the MOOC," did your institution climb aboard or step away? (Kolowich 2012, Rivard 2013, Straumsheim 2015)

When Trinity College partnered with edX in 2014, both Dan and I went along for the ride to explore, but remain skeptical of the hype.
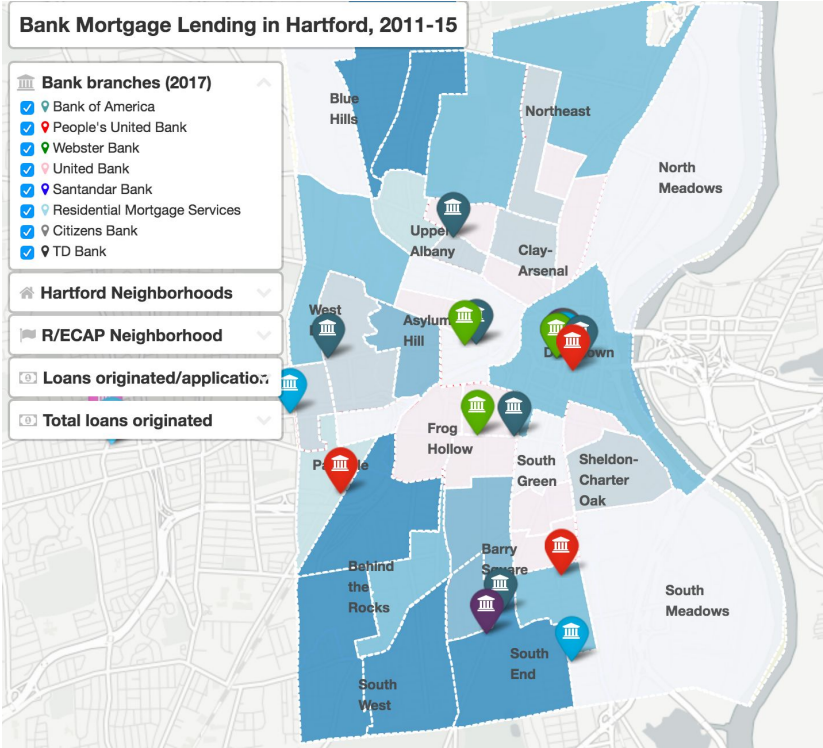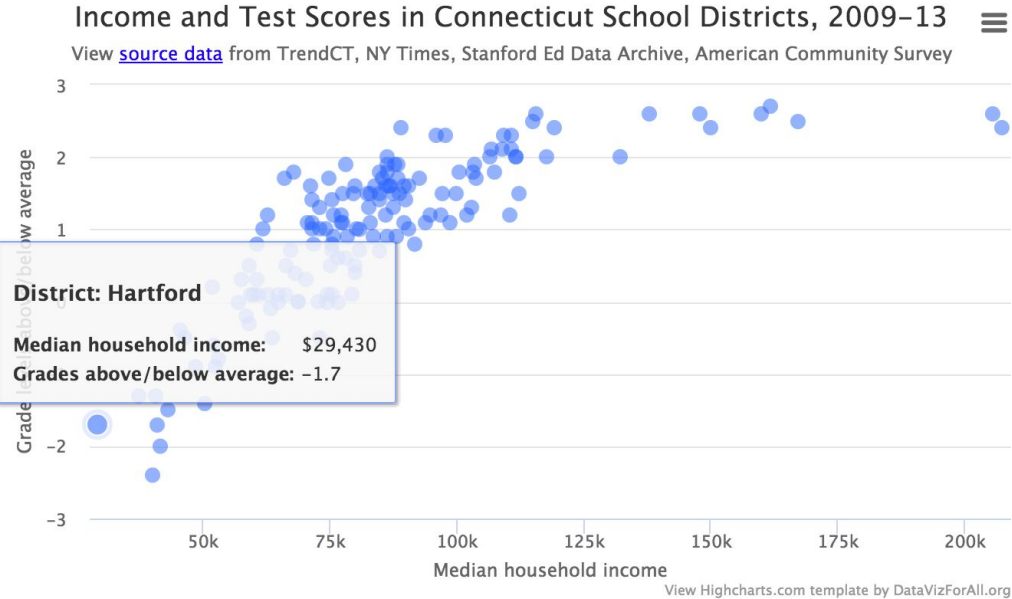
Consider this my travel journal. . .

Context: *Data Visualization for All* courses and products

Goal: Tell your data story with free and easy-to-learn tools

Context: *Data Visualization for All* courses and products
Goal: Tell your data story with free and easy-to-learn tools

Context: *Data Visualization for All* courses and products

Two courses:

1) Face-to-face internship seminar with partner organizations

2) EdX course for both Trinity interns and online students

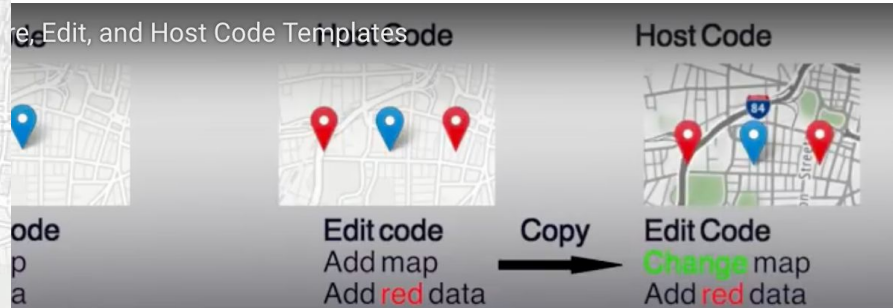# Context: *Data Visualization for All* courses and products

Two open-access products:

1) Online Book: concept videos, step-by-step tutorials

Context: *Data Visualization for All* courses and products

Two open-access products:

1) [Online Book](): concept videos, step-by-step tutorials

2) [EdX course](): 6-week outline, quizzes, peer reviews, help

Section 1: Choose the Right Tools to Tell Your Story

What You'll Learn in This Section

Exercise: Collect and Explore Public Survey Data about our Class
Assessments ✎

Exercise: Write, Draw, and Share your Data Story
Assessments ✎

Exercise: Rate Three Tools to Create a Geocoded Point Map
Assessments ✎

Exercise: Spreadsheet Skills Checkup
Assessments ✎

Optional: Chat About Choose the Right Tools to Tell Your Story

edX

Courses ▾ Programs ▾ Schools & Partners About ▾   Search: 🔍

Home > All Subjects > Data Analysis & Statistics > Data Visualization for All

Data Visualization for All

Tell your story with charts and maps on the web, using easy-to-learn free tools: Google Sheets, Tableau, Highcharts, Carto, Leaflet, GitHub

Trinity College

9) Your work will be evaluated based on the following criteria:
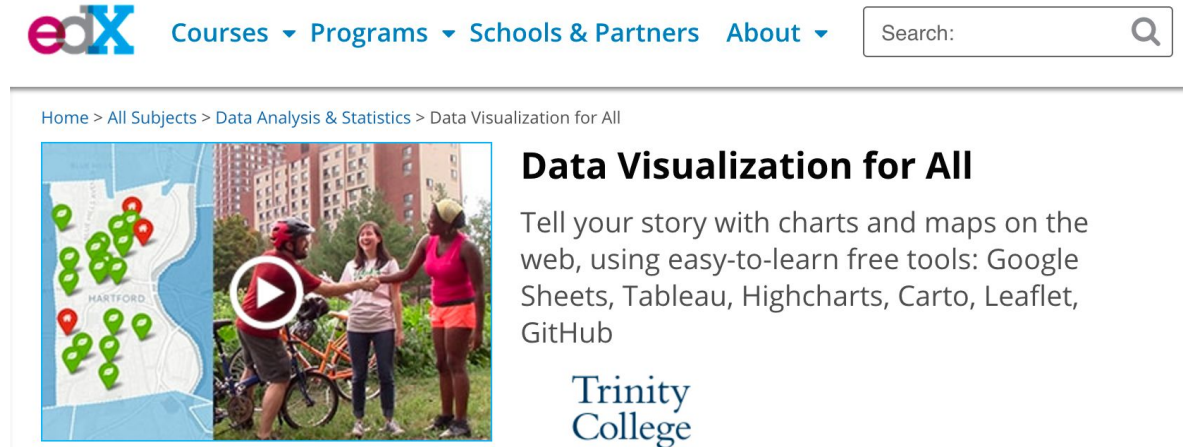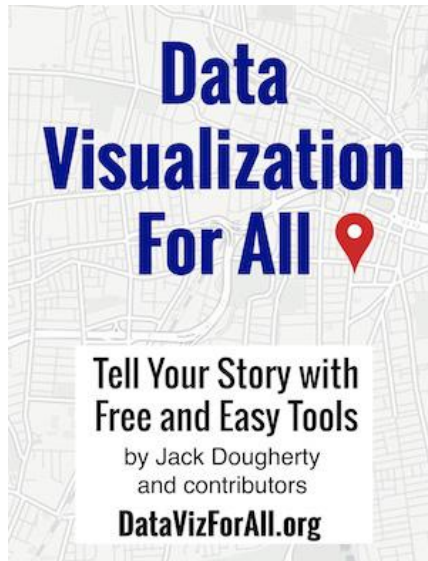
1. Story: Did the author clearly tell a meaningful story about the data, with text and visuals?

2. Chart Type: Did the author choose a chart type that best matches their data story?

3. Embed: Did the author embed an interactive chart into the web page?

4. Good Design: Did the author follow principles of good chart design?

Context: *Data Visualization for All* courses and products

Two open-access products:

1) Online Book: concept videos, step-by-step tutorials

2) EdX course: 6-week outline, quizzes, peer reviews, help

Recommendation 1: Create knowledge in free online books to accompany password-protected MOOCs.

Who Enrolls in edX?

"Through these non-credit bearing courses, involved faculty have engaged with over 25,000 students from over one hundred countries."

-- Trinity President to faculty meeting, April 2017
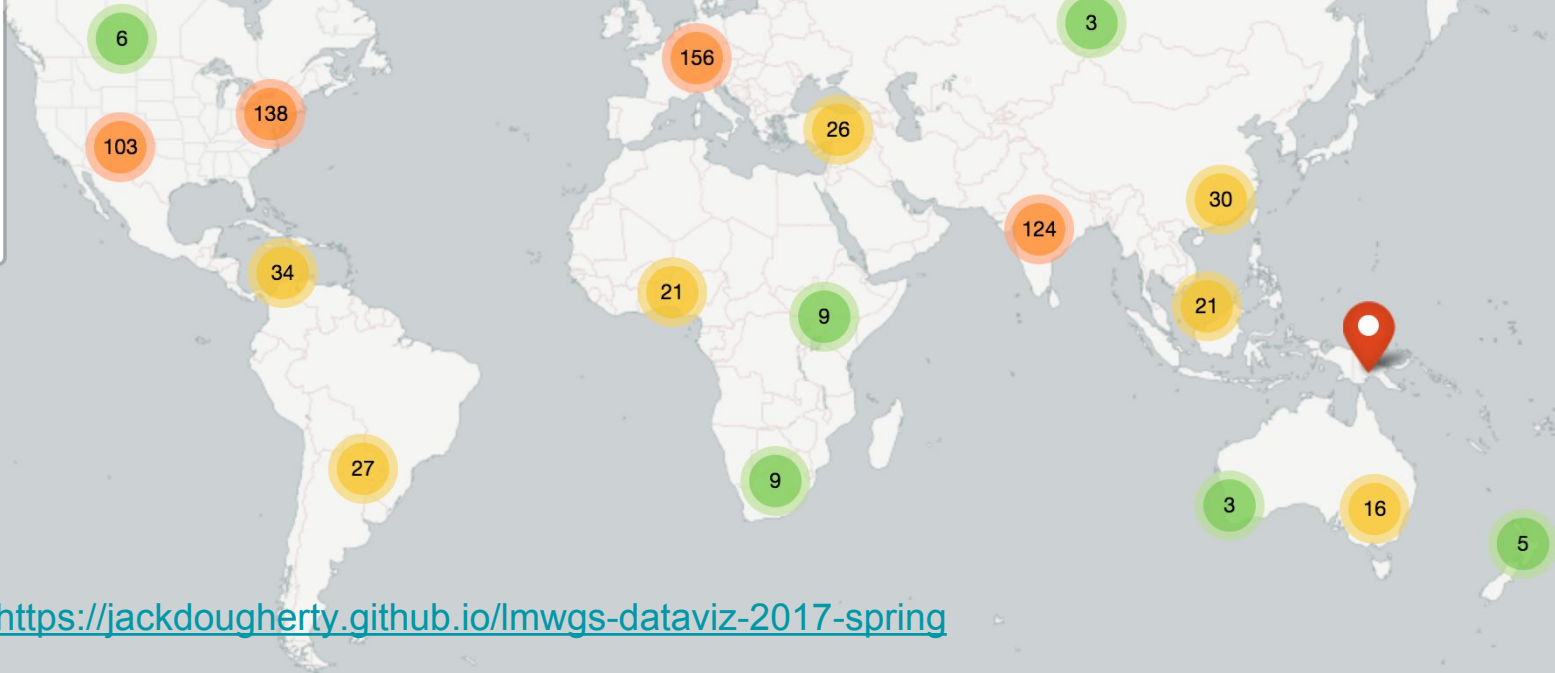
Data Visualization for All, Spring 2017
public survey participants in Trinity edX course

Participants (735)
- ☑ 📍 educator
- ☑ 📍 for-profit business
- ☑ 📍 government
- ☑ 📍 information technology
- ☑ 📍 journalism
- ☑ 📍 non-profit or ngo
- ☑ 📍 not employed
- ☑ 📍 other
- ☑ 📍 retired
- ☑ 📍 student

"Through these non-credit bearing courses, involved faculty have engaged with over 25,000 students from over one hundred countries."
        -- Trinity President to faculty meeting, April 2017

Interactive map: https://jackdougherty.github.io/lmwgs-dataviz-2017-spring
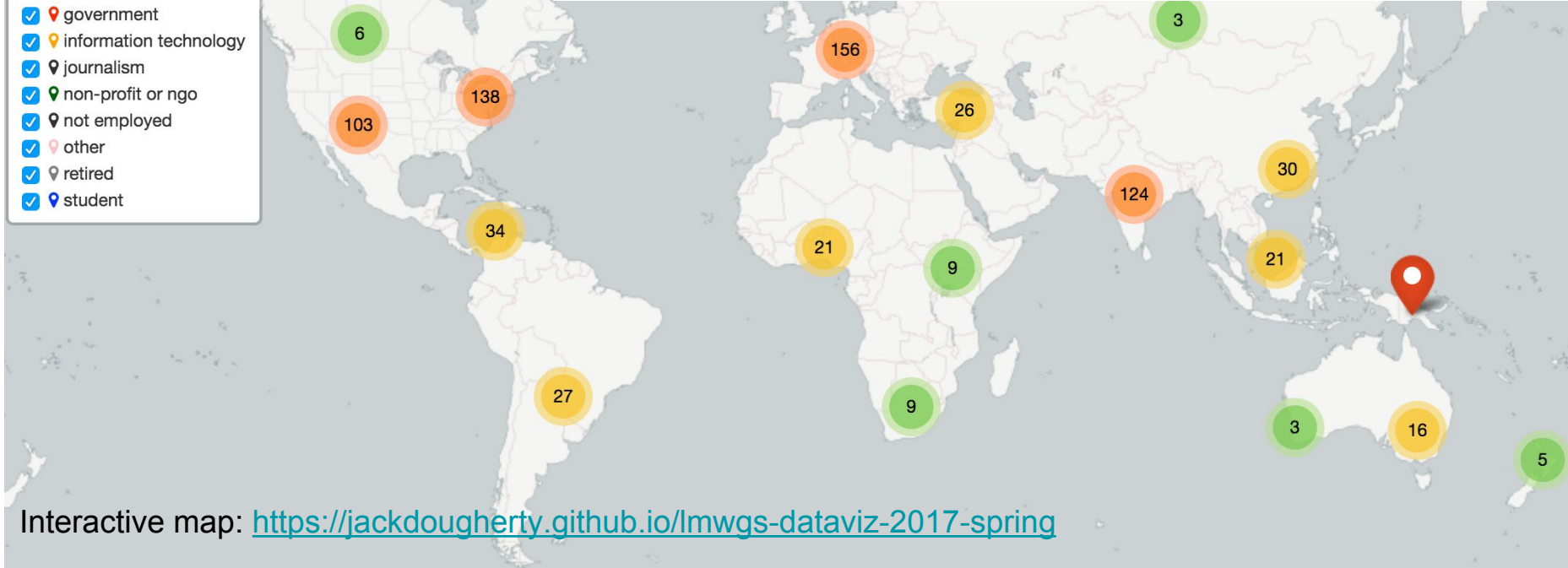
Data Visualization for All, Spring 2017
public survey participants in Trinity edX course

Participants (735)
- ☑ 📍 educator
- ☑ 📍 for-profit business
- ☑ 📍 government
- ☑ 📍 information technology
- ☑ 📍 journalism
- ☑ 📍 non-profit or ngo
- ☑ 📍 not employed
- ☑ 📍 other
- ☑ 📍 retired
- ☑ 📍 student

"Through these non-credit bearing courses, involved faculty have engaged with over 25,000 students from over one hundred countries."
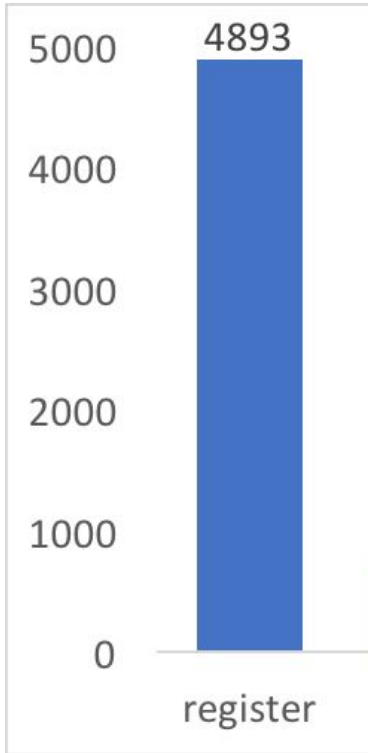   -- Trinity President to faculty meeting, April 2017
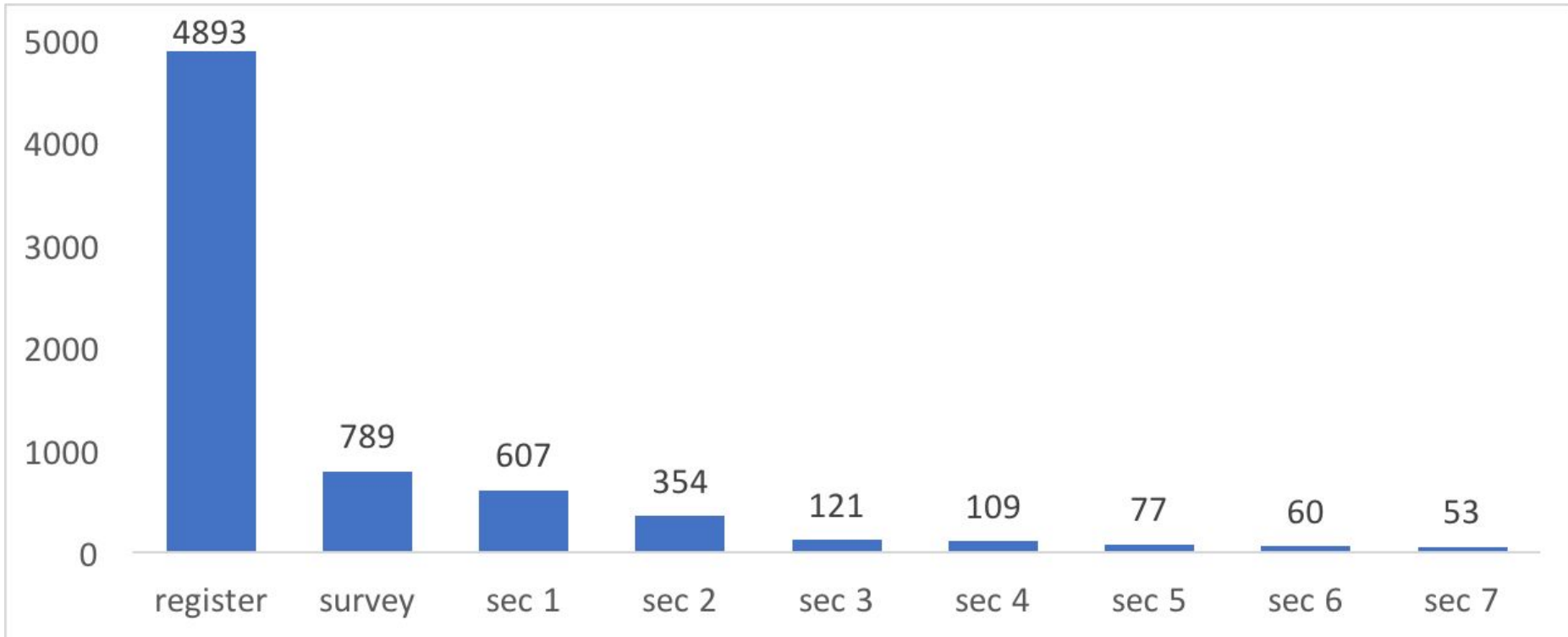
Interactive map: https://jackdougherty.github.io/lmwgs-dataviz-2017-spring

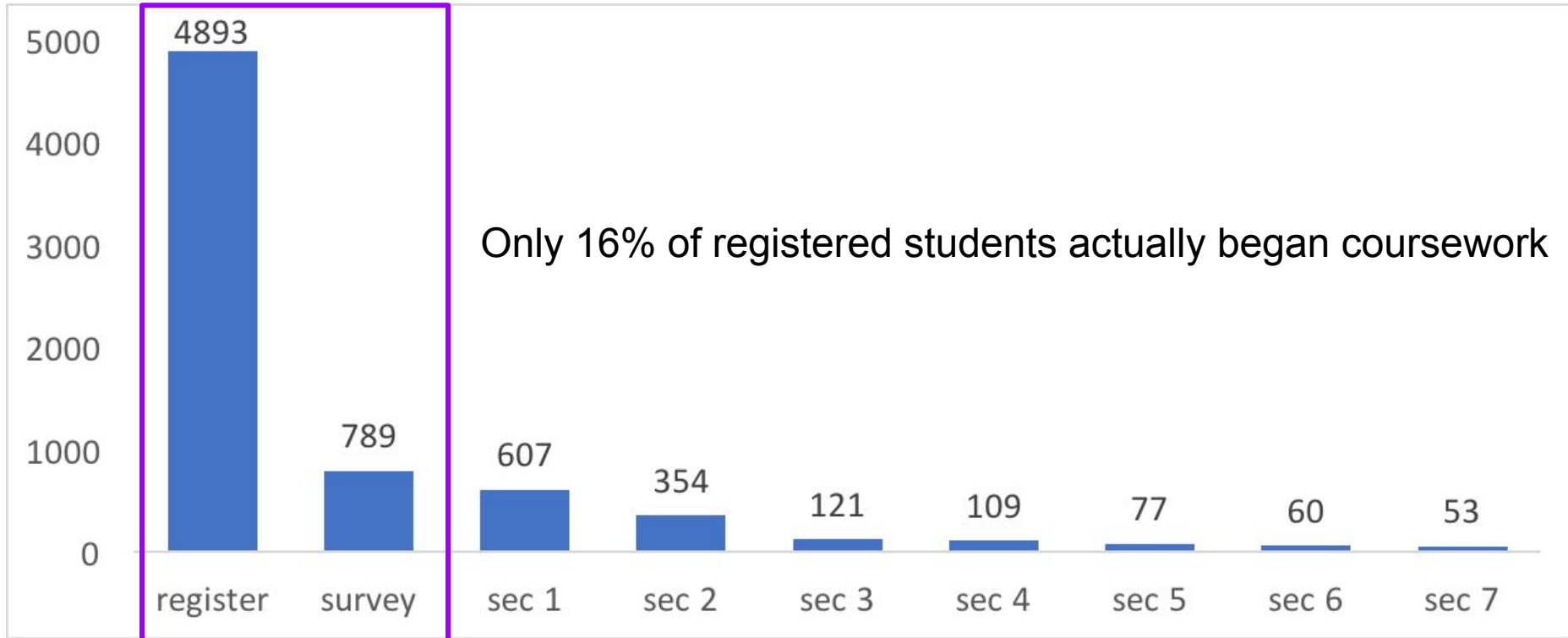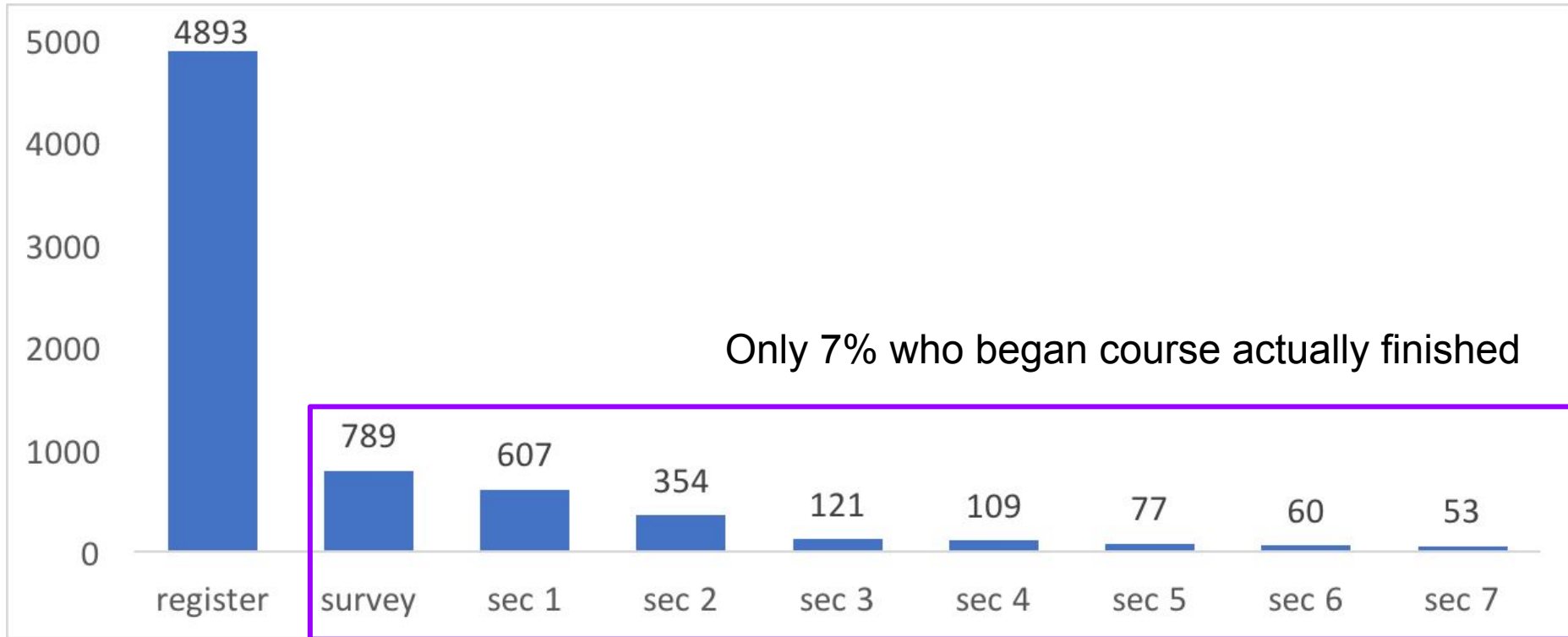**Recommendation 2:** Don't rely on your own public relations to understand reality.

Student participation sharply declined in DataViz for All edX course, Spring 2017

Student participation sharply declined in DataViz for All edX course, Spring 2017

Student participation sharply declined in DataViz for All edX course, Spring 2017

Only 16% of registered students actually began coursework

Student participation sharply declined in DataViz for All edX course, Spring 2017

Only 7% who began course actually finished

4893	789	607	354	121	109	77	60	53
register	survey	sec 1	sec 2	sec 3	sec 4	sec 5	sec 6	sec 7

Student participation sharply declined in DataViz for All edX course, Spring 2017

Q: Is dropout rate similar to other MOOCs at Trinity and elsewhere?
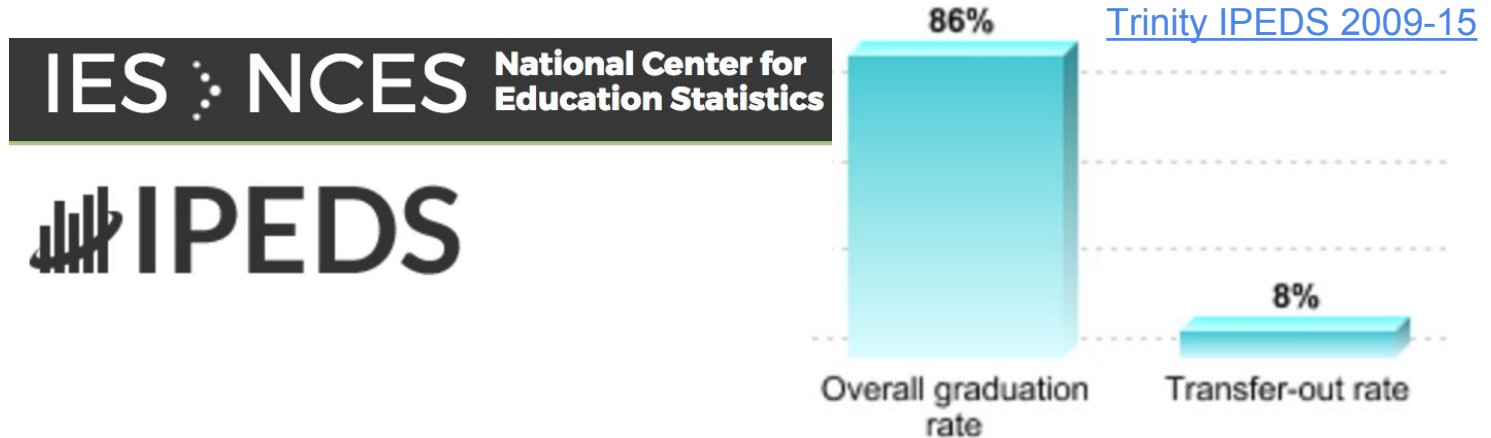A: We don't yet know, because almost no one releases detailed info

Student participation sharply declined in DataViz for All edX course, Spring 2017

Q: Is dropout rate similar to other MOOCs at Trinity and elsewhere?
A: We don't yet know, because almost no one releases detailed info

Recommendation 3: Openly publish MOOC retention data, just as accreditors and government require traditional college data.

Trinity IPEDS 2009-15

IES ⋮ NCES National Center for Education Statistics

⫿IPEDS

86%

8%

Overall graduation rate

Transfer-out rate

MOOCs pressure small liberal arts colleges to compete with large research universities, but we cannot win at their game.

EDX CHARTER MEMBERS

Massachusetts Institute of Technology	HARVARD UNIVERSITY	Berkeley UNIVERSITY OF CALIFORNIA	THE UNIVERSITY of TEXAS SYSTEM	Australian National University
Founder	Founder	Contributor	Contributor	Contributor

[EdX Schools and Partners web page](#)

MOOCs pressure small liberal arts colleges to compete with large research universities, but we cannot win at their game.

Recommendation 4:
Focus on what we do best.

Engage face-to-face with our students as co-authors and co-instructors for open-access books and online courses.

Authors	About Us
	Jack Dougherty, the lead author, is Professor of Educational Studies at Trinity College in Hartford, Connecticut. He and his DataViz students partner with community organizations to help tell their data stories on the web. Follow @DoughertyJack on Twitter and JackDougherty on GitHub.
	Veronica X. Armendariz earned her bachelor's degree in Educational Studies in 2016 from Trinity College, where she also served as a teaching assistant for the DataViz internship seminar. She authored tutorials for this book.
	Ilya Ilyankou is completing a double major in Computer Science and Studio Arts in the Class of 2018 at Trinity College. He developed Leaflet and Highcharts code templates for this book. Follow ilyankou on GitHub.
	Stacy Lam is a co-instructor for the Data Visualization for All online course at Trinity College, where she is a prospective Engineering major in the Class of 2019. She co-authored chapters for this book.

MOOCs pressure small liberal arts colleges to compete with large research universities, but we cannot win at their game.

Recommendation 4:
Focus on what we do best.

Engage face-to-face with our students as co-authors and co-instructors for open-access books and online courses.

Authors	About Us
	Jack Dougherty, the lead author, is Professor of Educational Studies at Trinity College in Hartford, Connecticut. He and his DataViz students partner with community organizations to help tell their data stories on the web. Follow @DoughertyJack on Twitter and JackDougherty on GitHub.
	Veronica X. Armendariz earned her bachelor's degree in Educational Studies in 2016 from Trinity College, where she also served as a teaching assistant for the DataViz internship seminar. She authored tutorials for this book.
	Ilya Ilyankou is completing a double major in Computer Science and Studio Arts in the Class of 2018 at Trinity College. He developed Leaflet and Highcharts code templates for this book. Follow ilyankou on GitHub.
	Stacy Lam is a co-instructor for the Data Visualization for All online course at Trinity College, where she is a prospective Engineering major in the Class of 2019. She co-authored chapters for this book.

Teach students to become digital creators, not just consumers.