

Donor Retention in Online Crowdfunding Communities

A CASE STUDY OF DONORSCHOOSE.ORG

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Crowdfunding

- Revolutionary way to collect funding
 - › “Crowd” collectively funds projects through many small donations
- Projects rely on contributions from large number of individuals
 - › Similar to non-profit organizations & charities



Donors Choose.org
Teachers ask. You choose.

What factors predict donor return?

Donor Retention

- Donors making donations year after year
- Significant impact on effectiveness of fundraising campaigns
 - › More cost-effective to maintain existing donor relationships than to recruit new donors
 - › 10% improvement in retention may yield up to 200% more donations (Sargeant 2008)
- Present retention rates very low (~25%)
- Challenge for traditional non-profit organizations and online crowdfunding

What do we know?

- Current knowledge (Sargeant 2008)
 - Anecdotal evidence from professionals
 - Small lab experiments
- Example anecdotes
 - “Regularly [...] show your donors loyalty – that you care – beyond just making the ask.”
 - “Thank donors well — and promptly”
- How to quantify these factors?
- Are donor subgroups affected differently?

This Work



Donors Choose.org
Teachers ask. You choose.

- Observational study of donor retention factors
 - › U.S. platform for public school teachers to request donations of classroom materials
 - › Used by >60% of U.S. public schools
- Data: full trace of donor and project activity (2000-2014)
 - › 3.9M donations by 1.5M donors to 638k projects for a total of \$282M

Related Work

- **Online crowdfunding**

- project dynamics (Mollick '14)
- predicting project success (Greenberg et al. '14)
- completing donation bias (Wash '13)

- **Offline charities**

- importance of donor retention (Barber & Lewis '13)
- retention factors (Sargeant '08)

- **Contributor retention**

- newsgroups (Arguello et al. '06)
- forums (Lampe & Johnston '05)
- Q&A Sites (Yang et al. '10)
- Wikipedia (Halfaker et al. '12)

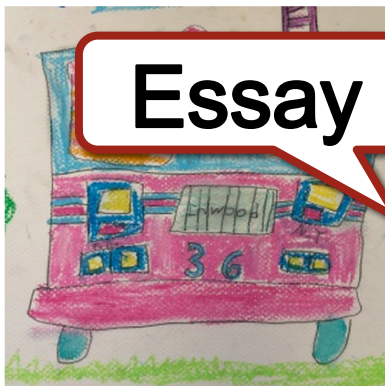
Title

Teacher & School

Please, Teach Me Art! ♥

Ms. Novello's trips & visitors project at PS 98 Shorac Kappock in New York City, NY | Highest Poverty

Essay



My Students: "I found I could say things with color and shapes that I couldn't say any other way - things I had no words for."

- Georgia O'Keeffe

Art is a magical language of it's own. My students love art but they only have it once a week. They ... [▶ more](#)

I would like to participate in an art workshop in Florence that focuses on landscape and architecture. I will gain a deeper understanding of art elements and techniques that I can teach my students.

Through my experience in the ... [▶ more](#)

Teacher Professional Development: I need to attend an art workshop in Florence, Italy to learn about art, architecture and history. *This project is part of a [pilot program](#).*

\$

Give

\$408 to go
5 donors

Help off thanks to

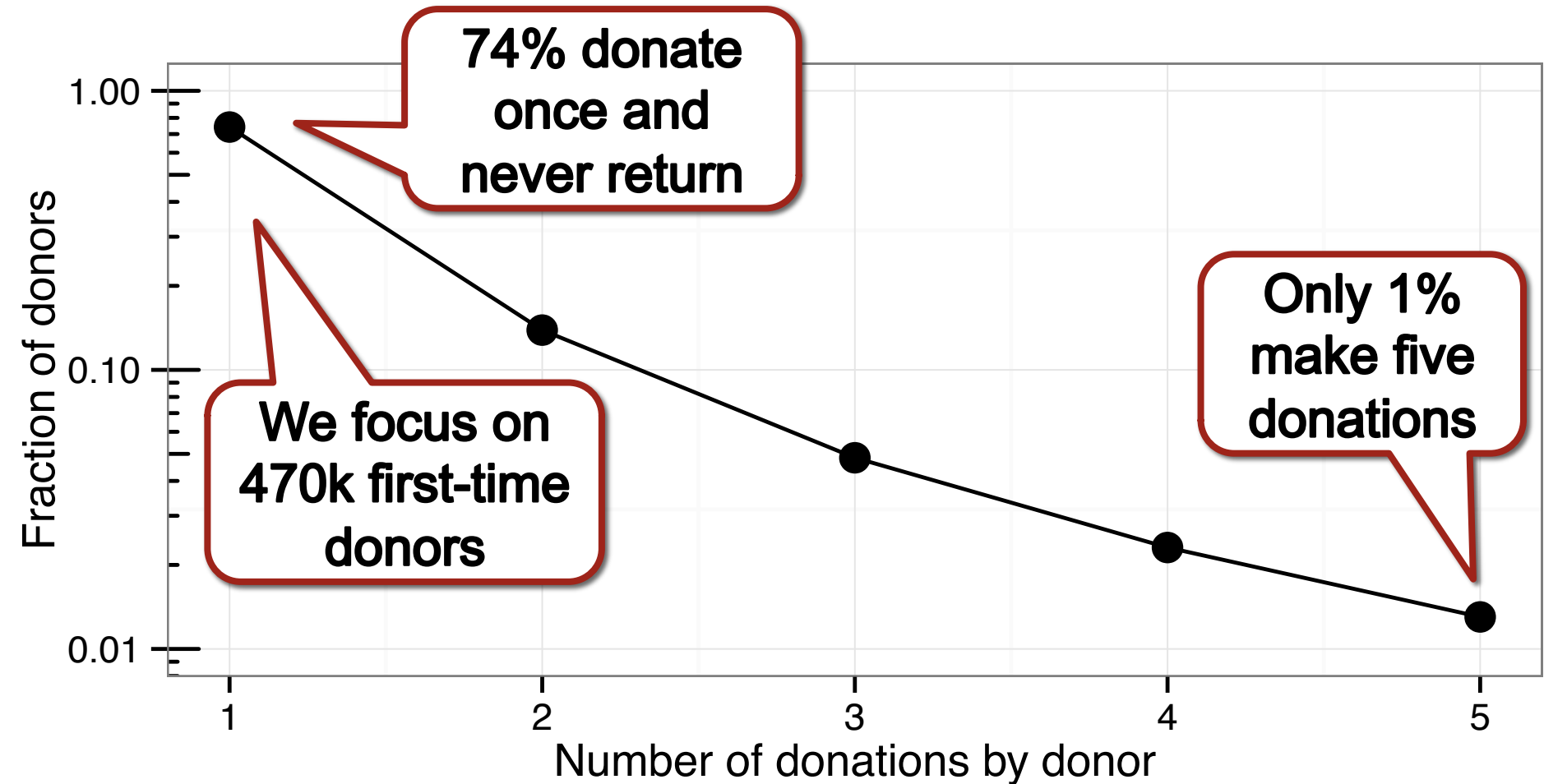
B. MELINDA

Amount Left

Itemized List

component	company	total
Activity	Accademia del Giglio: Language, Art & Culture	\$730.00
Food	Food	\$102.00
Miscellaneous	Accademia del Giglio	\$408.00
Vendor shipping charges		\$0.00
State sales tax		\$0.00

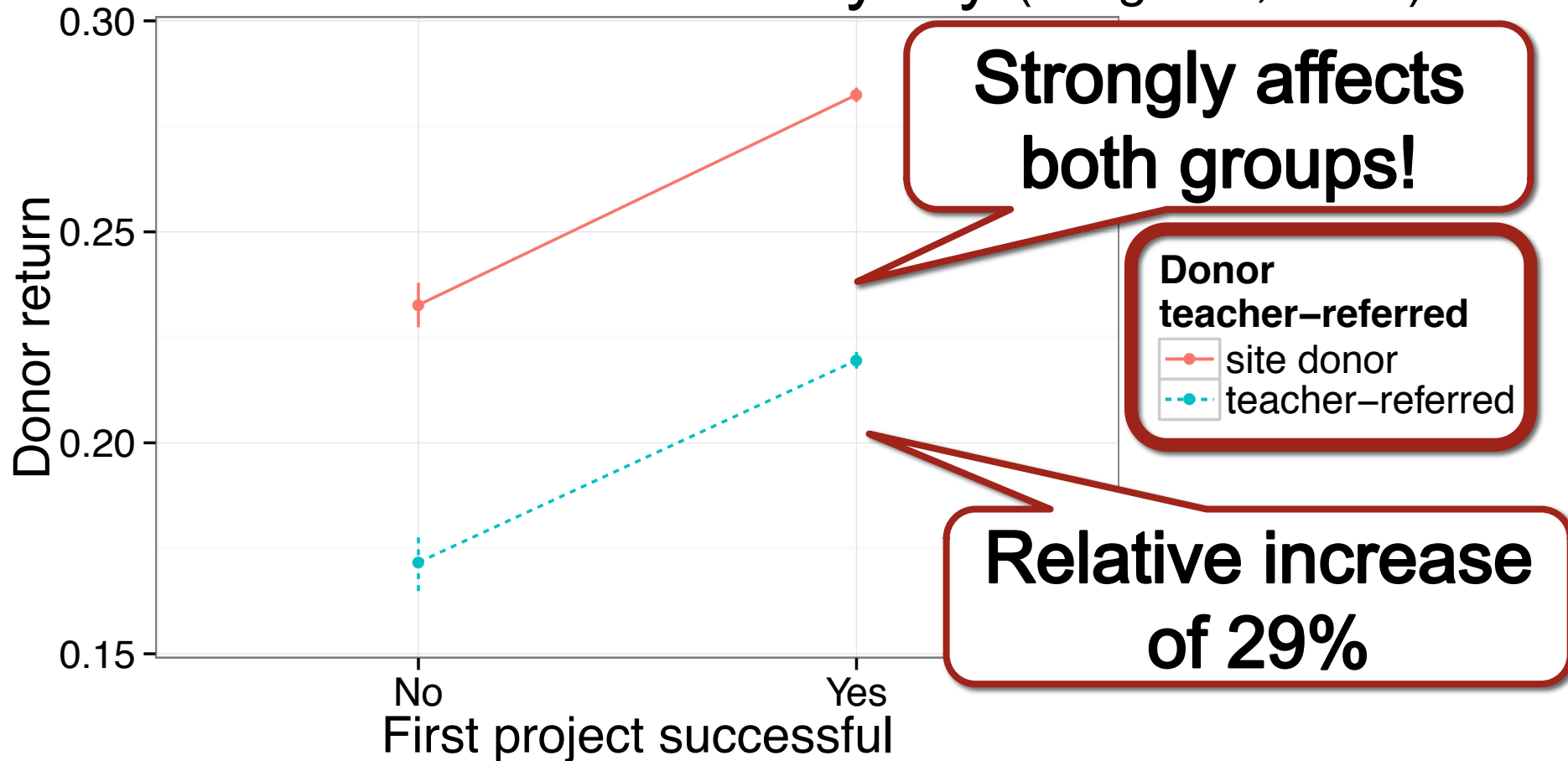
Donor Retention in DC.org



What factors predict donor return?

Project Success = Retention?

- Project success = 100% funded
- Trust known driver of loyalty (Sargeant, 2008)



Four Questions about Donor



How

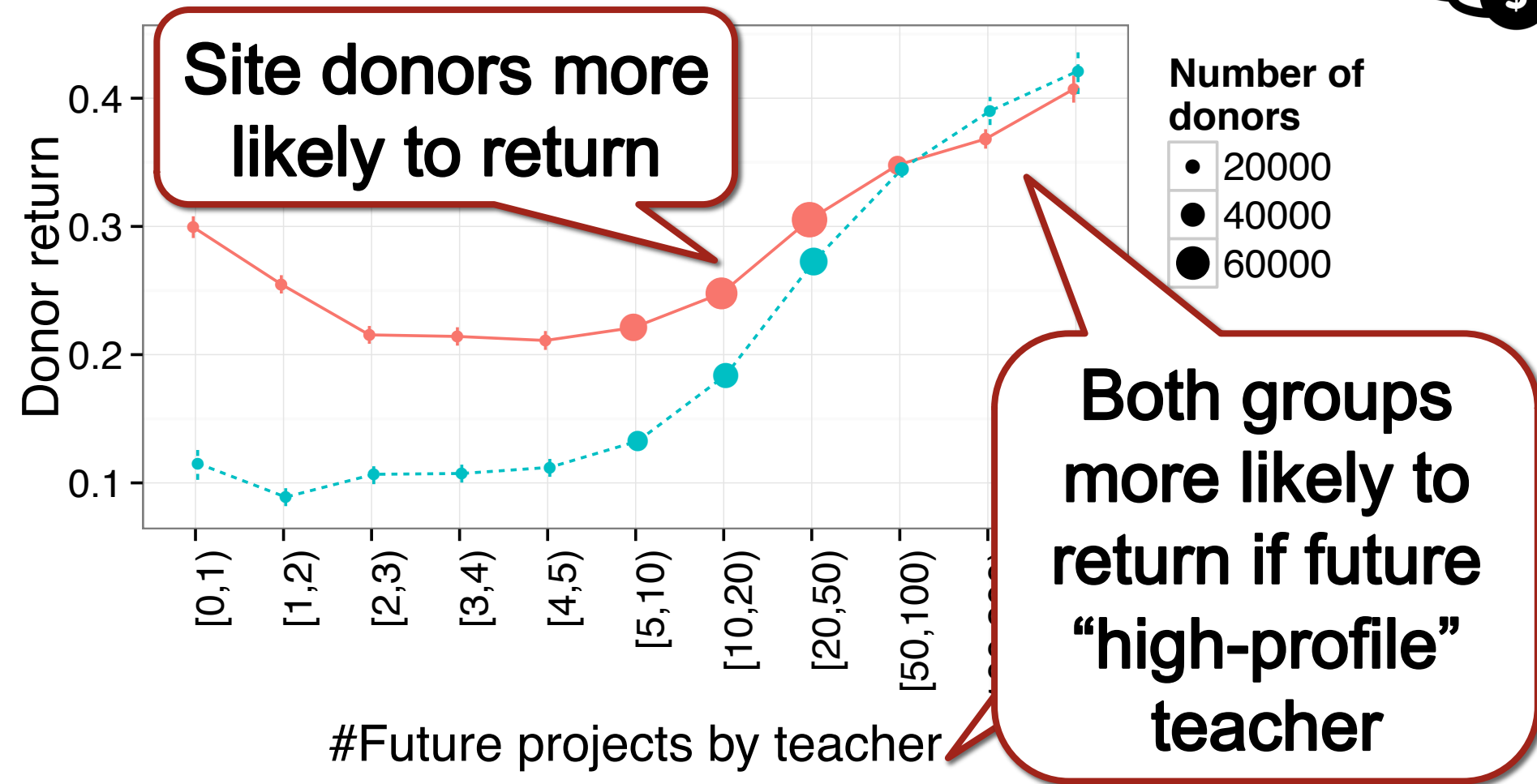
Where

When

**How
Much**

...do they donate?

Tracking How Donors Joined



→ Possible explanation: correlated with personal motivation and involvement

Four Questions about Donor



Site donors
more loyal than
teacher-referred
donors

Where

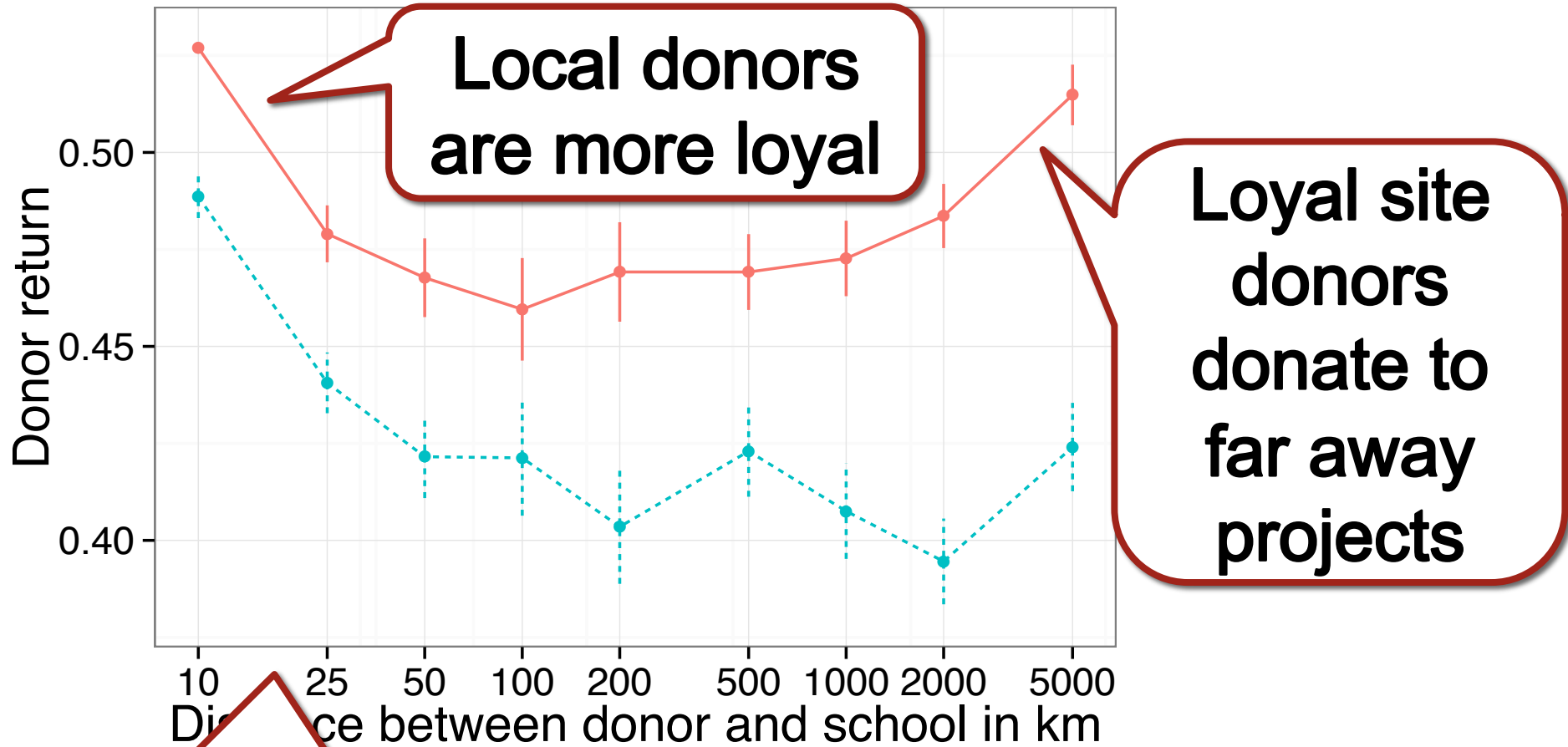
When

**How
Much**

Distance \approx Involvement?



Distance between classroom and donor



Local giving prevalent

Four Questions about Donor



Teacher-referred
donors less
likely to return

Local donors are
loyal donors

When

**How
Much**

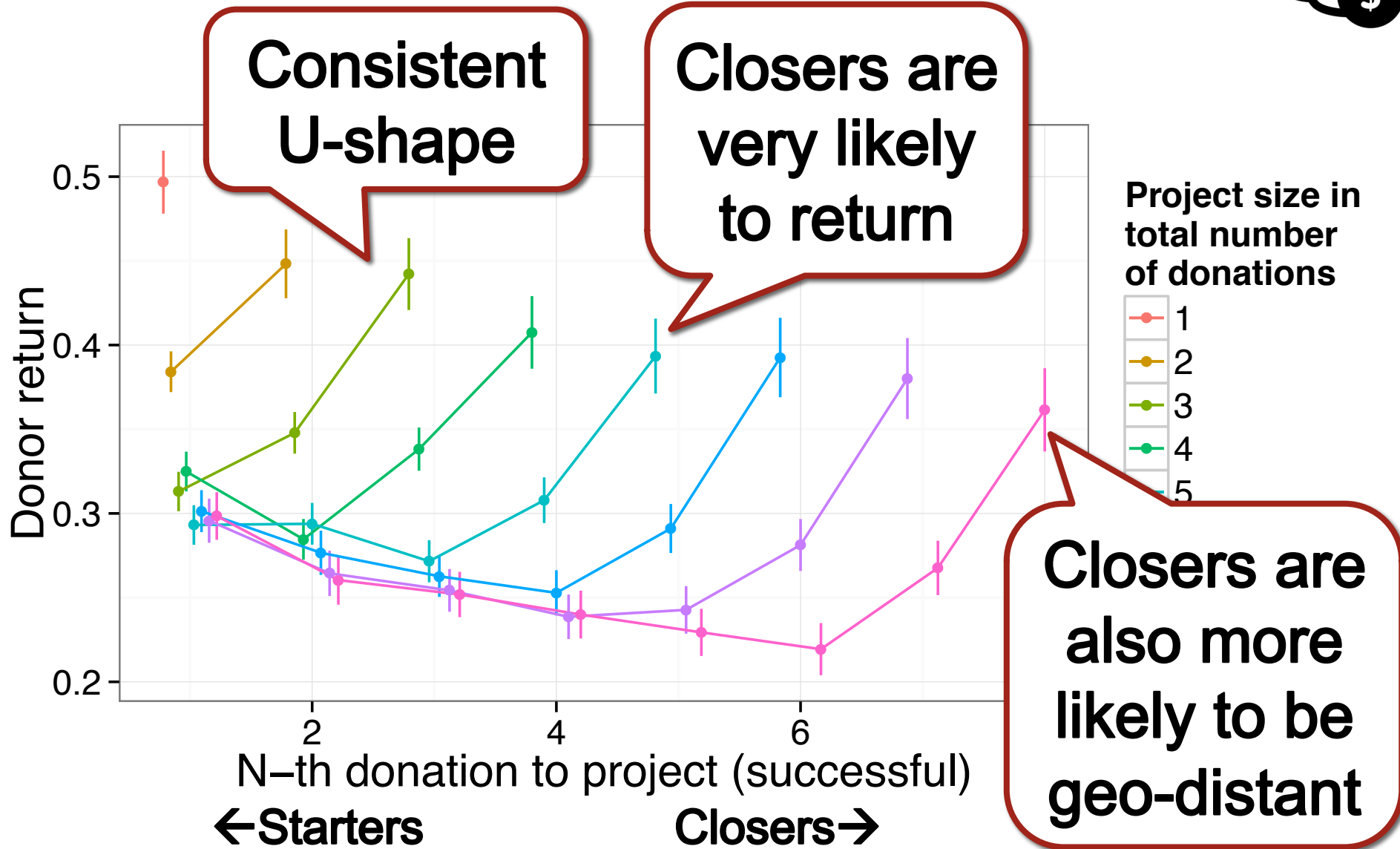
Donor's Role within Project



Donors assume different roles based on when they donate to project

- › Starters: Make initial donation
- › Closers: Finish off projects close to completion

Donor's Role within Project



Four Questions about Donor



Teacher-referred
donors less
likely to return

Local donors are
loyal donors

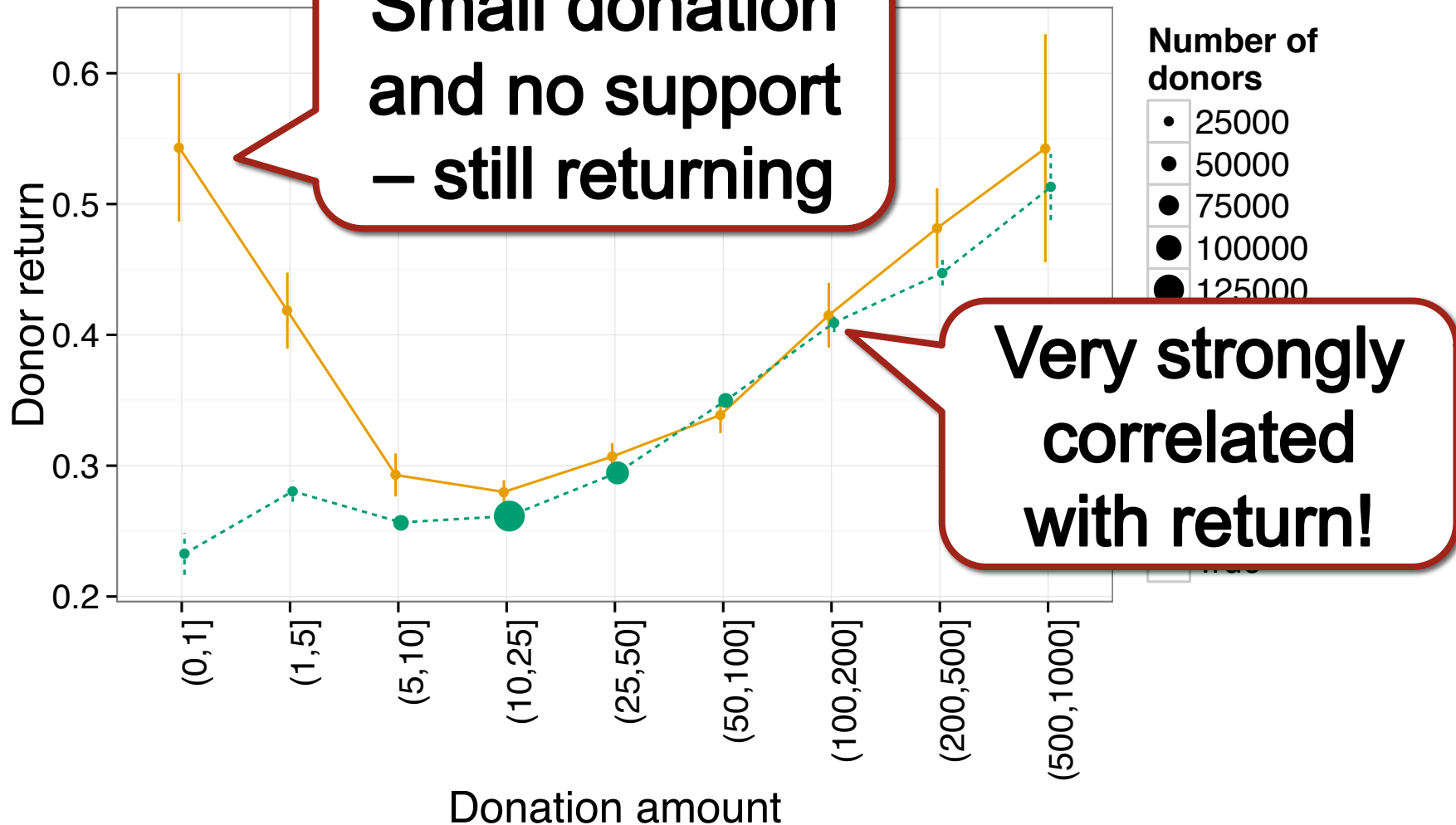
Starters and
Closers are
particularly loyal

**How
Much**

Donation Amount



Donors can support DC org w 15% of donation



Four Questions about Donor



**Teacher-referred
donors less
likely to return**

**Local donors are
loyal donors**

**Starters and
Closers are
particularly loyal**

**Large donations
demonstrate
commitment**

Teacher Perspective



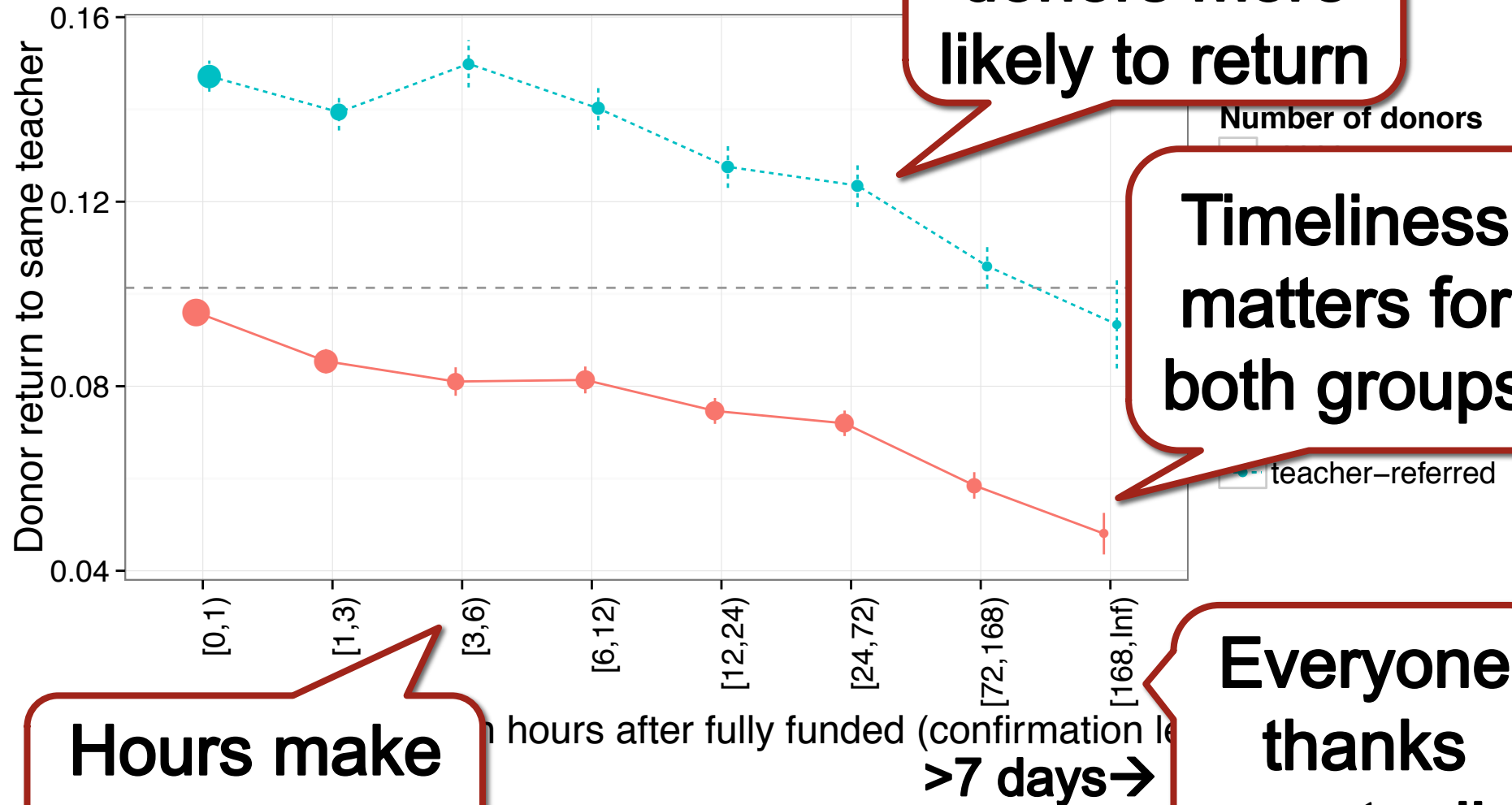
**Acknowledge
Support**

**Communicate
Impact**

Acknowledging support



Effect of **timeliness** of thank you
return to same teacher



Teacher-ref donors more likely to return

Timeliness matters for both groups

Hours make a difference!

Everyone thanks eventually

>7 days →

Teacher Perspective



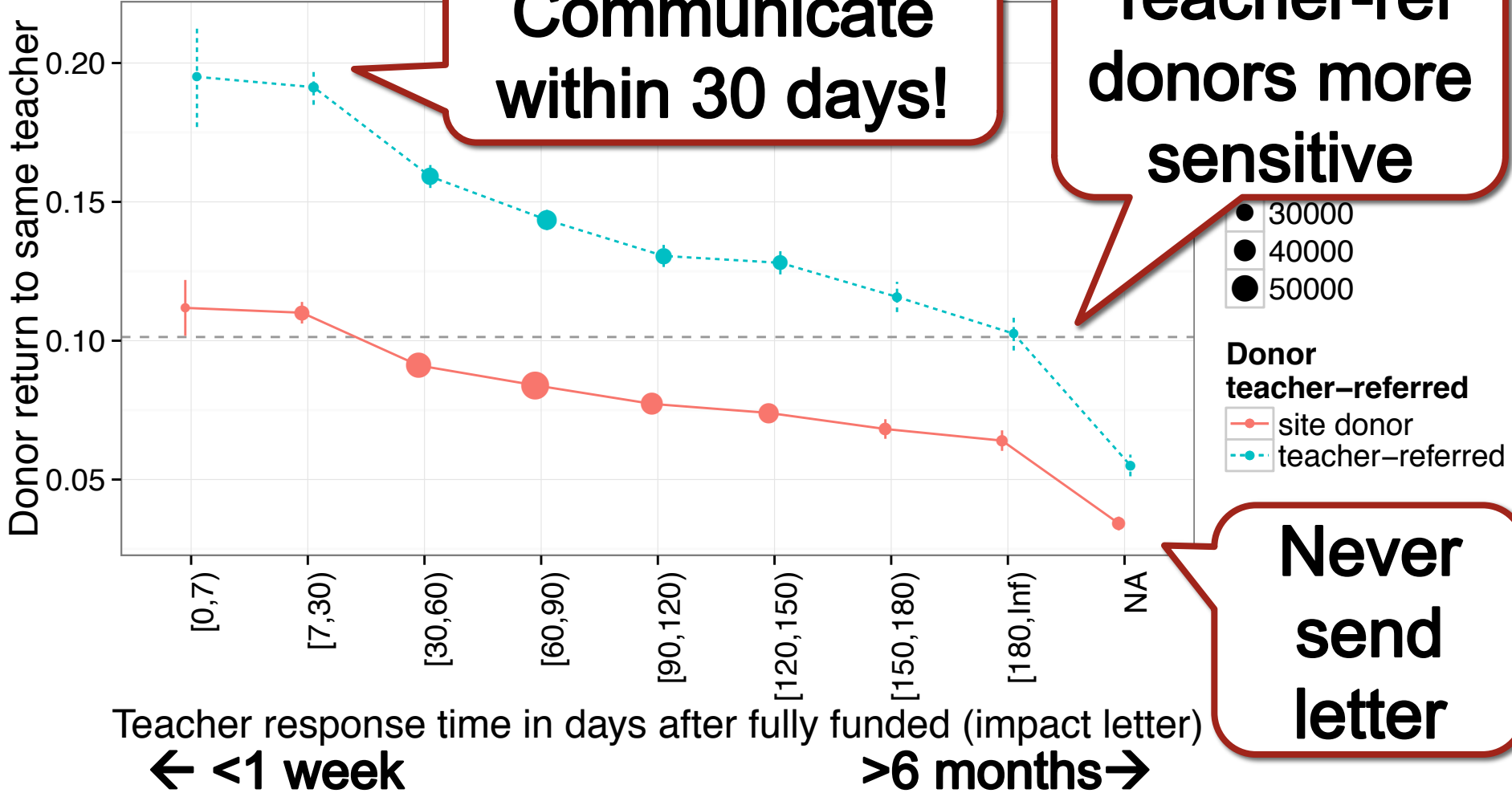
**Thank within
first hours!**

**Communicate
Impact**

Communicating Impact



Effect of **timeliness** of teacher impact letter on return to same teacher



Teacher Perspective



**Thank within
first hours!**

**Teacher-ref.
sensitive to
communication**

Can we predict donor return?

Data: 470k first-time donors (26% return rate)

Features: split into four groups

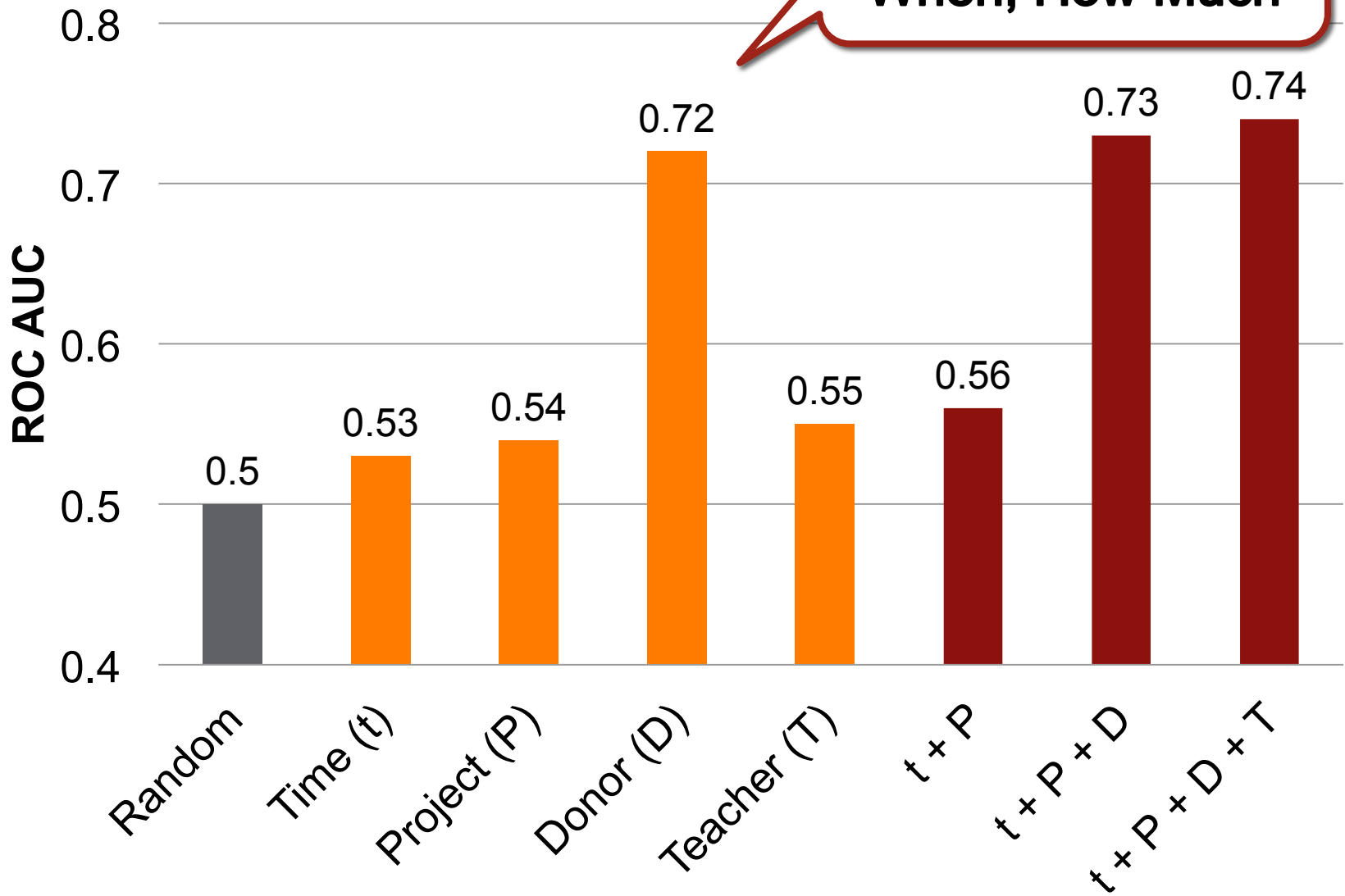


Model: Logistic Regression (SVM & RandomForest gave similar results)

Metric: Area under receiver operating characteristic curve (ROC AUC) (10-fold CV)

Prediction Results

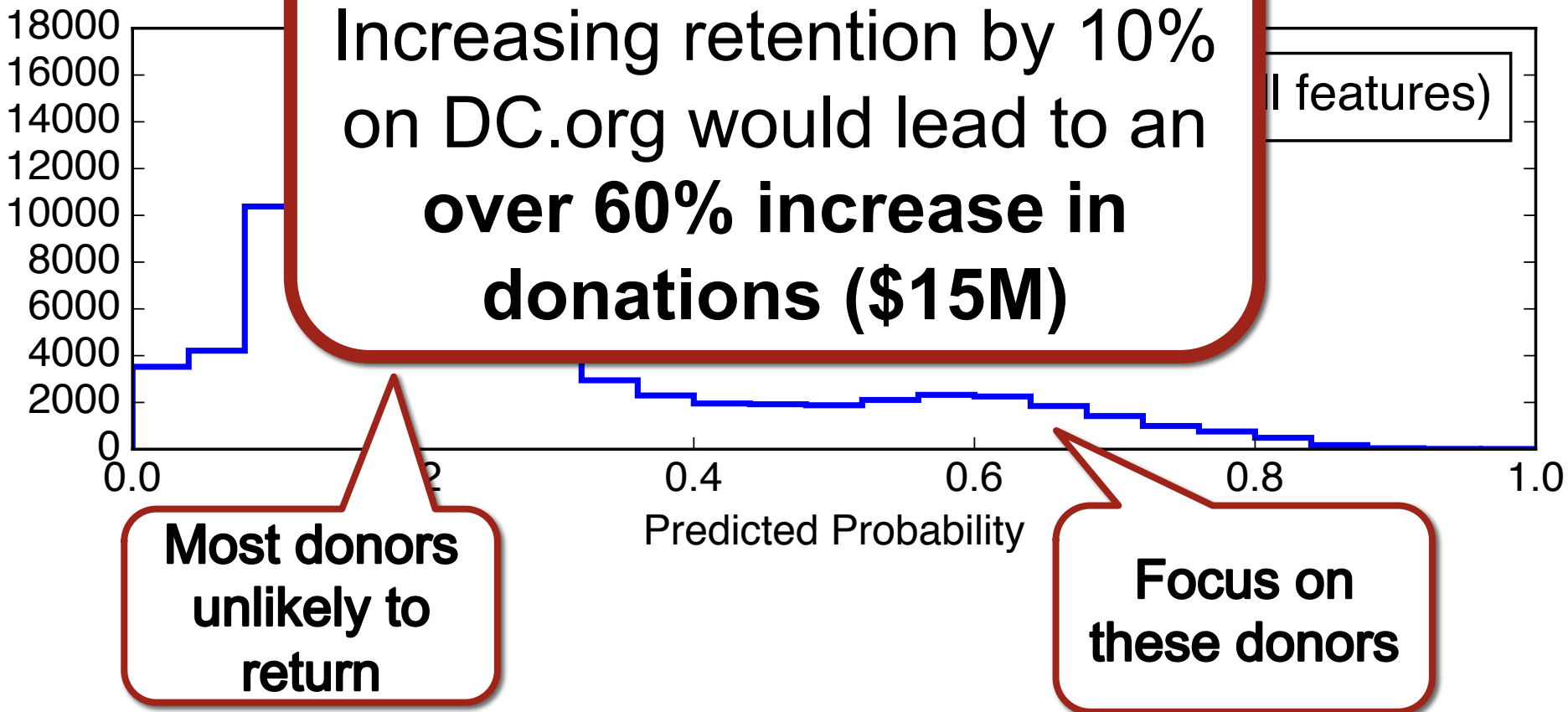
How, Where,
When, How Much



How likely are donors to return?

Calibrated Model? Yes.

→ Predict



Recommendations

Teacher Platform

- Make sure first-timers **experience success**
- Recommend local projects to “**local givers**”
- Use donations by “**anywhere givers**” wisely
- **Acknowledge support** within a few hours
- **Communicate impact** within a month
- **Real-world impact:**
 - DC.org now recommends smaller and more-likely-to-succeed projects to first-time donors
 - DC.org is rethinking the teacher communication workflow

Conclusion

- **Challenge** for traditional NPO & crowdfunding
- **Observational study** of donor retention factors
- **Predicted** donor return
- **Implications** for online & offline fundraising

- **Inform** crowdfunding communities and NPOs
- **Encourage** them to start collecting information

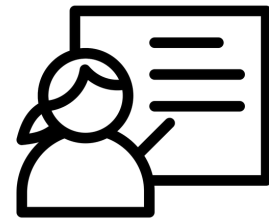
Thank you!

Data available at data.donorschoose.org



Donors Choose.org
Teachers ask. You choose.

Paper and slides available at cs.stanford.edu/~althoff



Thanks to Vlad Dubovskiy and Thomas Vo at DonorsChoose.org for facilitating the research!

Backup Slides

Project Success (cont.)



Potential confounders

- Successful projects are smaller
- Donations towards them are larger

Almost exact pairwise matching

- On donation amount, project cost, etc.
- Still observe **19% difference**

Project Cost

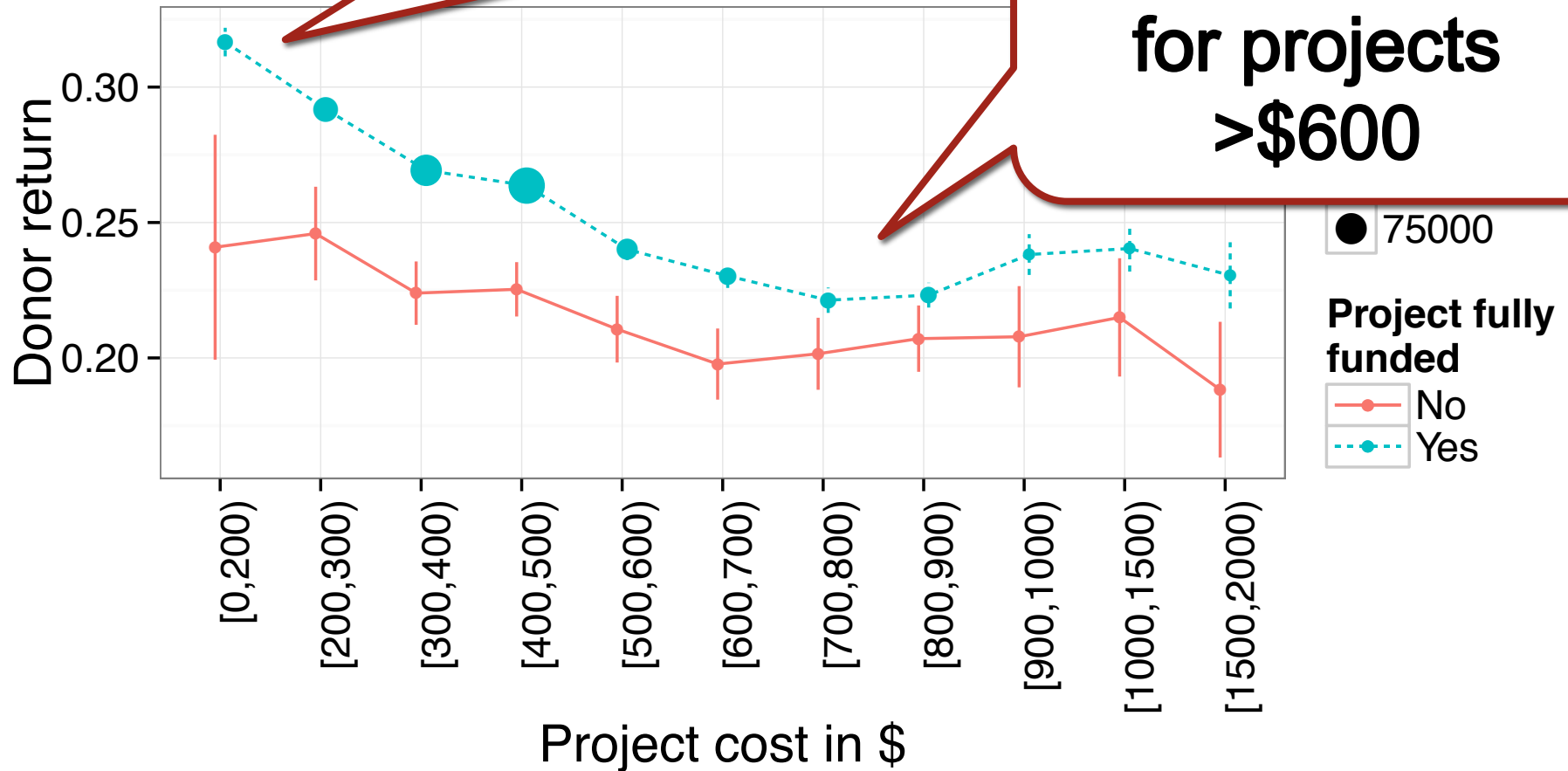


- Small

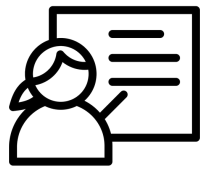
Donors to small projects more likely to return

se of impact

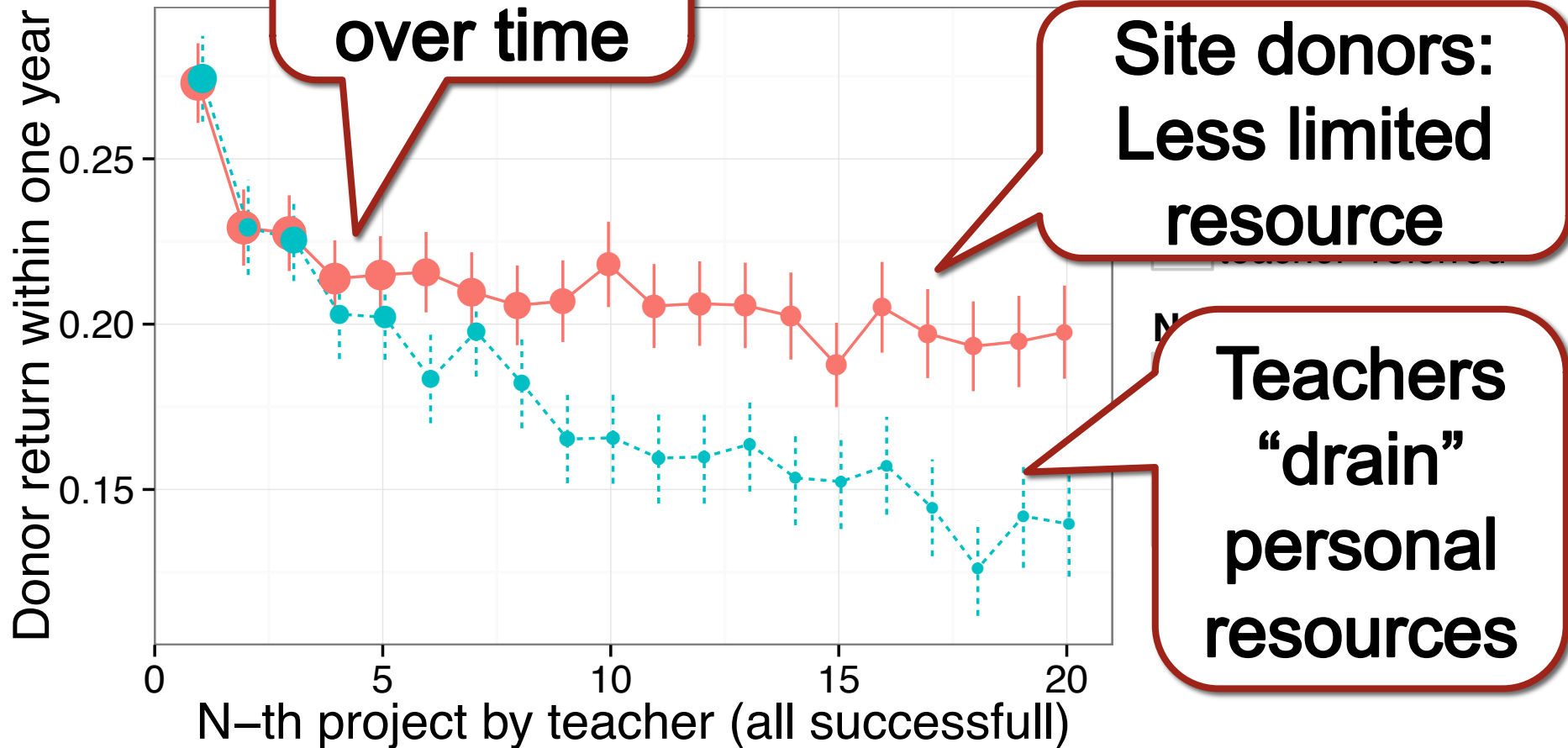
Small difference for projects >\$600



Teacher Perspective



- Donor management is a skill
- Experience gets better over time



Future Work

- Use of prediction models in fundraising campaigns
- Content analysis of essays, messages, photos...
- Online field experiments to test causal hypotheses

Example Thank You Note



DonorsChoose.org

Good news: Project fully funded!

Oct 25, 2014

6 day
response
time

Ms. Novello the Teacher

Oct 30, 2014



Let me begin by saying, thank you.

Thank you for believing in the importance of books.

Thank you for believing in my students.

Thank you for helping kids that need it the most.

Thank you for making reading fun again!

Thanks to your generous support, there will be new and exciting books in my classroom and in the hands of a great bunch of fourth graders. You have changed the experience of reading for them. Now, they can read books they want to read, every day! Becoming a reader and being interested in books changes the course of a person's life. You have truly helped make an impact on the lives of my students.

With gratitude,
Ms. Novello

Example Impact letter

Ms. Novello the Teacher

Jan 26



Thank you all from the bottom of my heart for your support in this project. My students love the graphic novels and biographies! Every day, during independent reading, students take turns reading the series books such as Amulet and then they discuss them. It is wonderful seeing my class engaged in reading.

They are reading books they want to read and they are excited about it! I have heard them recommending biographies to each other - "have you read the Frida Kahlo biography? She was cool!" They ask me questions like "who is your favorite artist to read about?" and "did you read the Hilda graphic novel yet Ms. Novello?"

Thank you for helping make a world of difference in my students lives.

With gratitude,
Ms. Novello

**3 months
response
time**

