Hiring, Training, and Managing Undergraduate Teaching Assistants for Large CS1 Classes

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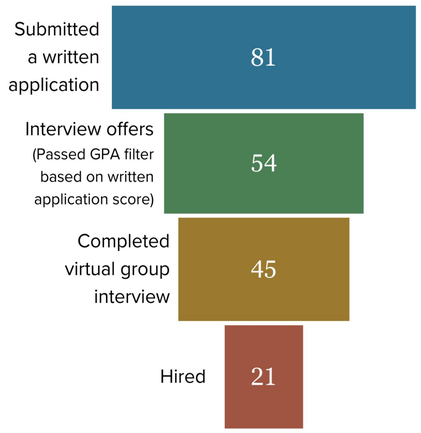
Hiring TAs? Look Beyond GPA

View References & Materials Here

Can a soft-skills oriented undergraduate TA hiring and training process for CS1 lead to improved academic outcomes?

Number of Applicants During Different Phases of Fall 2022 Hiring Process



Timeline

Early May: Distribute written application in CS courses & department Discord

Mid June: Score written applications, use GPA filter to determine interview offers

Early July: Conduct group interviews

Late July: Make job offers

Mid August: Provide training course to the new TAs

Written Application & GPA Filter

New Short Answer Questions

- Which CISC class was (or currently is) the most challenging for you? Why?
- In 1-3 sentences, describe what qualities or values you think are essential to be a "great TA."
- If you could change any ONE THING about UD's CIS Department, what would you change? Why?

Short Answer Question Rubric

5	All short answers are notably thoughtful and detailed, and demonstrate significant passion for the position and/or critical thinking. *(Minimum 2.50 GPA to interview.)*
4	Some, but not all, answers exceed the expected thoughtfulness and details. *(Minimum 3.00 GPA to interview.)*
3	Answers provide expected thoughtfulness and details. *(3.50+ GPA)*
2	Answers lack detail or contain many spelling/grammatical errors. *(Desk reject unless candidate has specialized skills or experience.)*
1	One or more questions not attempted (e.g. "I don't know," leaving it blank). *(Desk reject.)*

Interviews

Procedure

- Interview offers were given to those who met the GPA requirement based on the written application rubric.
- Each 45-minute interview was conducted virtually, with one interviewer (the Head uTA) and 2-3 applicants.
- Group interview format allowed the interviewer to observe applicants' active listening skills and demeanors toward peers.
- After a question was asked, each candidate had an opportunity to answer, which created space for a dialogue between different ideas.
- Question design focused on "soft skills" over technical knowledge.
- Interviews were scored on a rubric we adapted from Leyzberg et al.'s "Nailing the TA Interview: Using a Rubric to Hire Teaching Assistants" [1].

Sample Questions

- **Why** do you want to be a TA for CISC108?
- How would you **respond** to a **student getting overwhelmed** and crying during office hours?
- If you were to be hired, what is the **largest challenge** you'd expect to have as a CISC108 TA?
- What is **one action** you can take as a TA to foster an **inclusive and diverse** learning environment?
- What is one **value, idea, or philosophy** that you think is **especially important for our course staff** to possess going into this semester?

Sample Rubric Categories

Category	Unacceptable	Acceptable	Ideal
Empathetic toward struggling students	"Sink or swim" mentality, fixed mindset, or inconsiderate of issues outside of the course	Shows concern for students, "it's up to them to come to me," not proactive in helping	Would each out to students who aren't doing well, holding additional office hours/one on one
Open to improving teaching skills	"It worked for me so it can work for other people," little concern about different learners	Open to new training and trying new things to help their students learn	Actively interested in learning to be a better teacher, see flaws in their own methods
Sensitive to the freshman experience	Cynical, "they better learn to grow up fast"	Acknowledges typical freshman struggles	Actively excited to know and work with new students to campus
Cognizant of DEI issues in CS	Doesn't think it's a problem, and/or fails to connect the importance of TA duties in improving	Acknowledges DEI issues, surface level understanding of causes of inequity in CS	Shows that they've put thought and time into learning more, active proponents of equity
Community building	Doesn't see how community within the cohort is necessary	Knows that community helps, but doesn't know how to build it	Actively excited, has ideas to build community

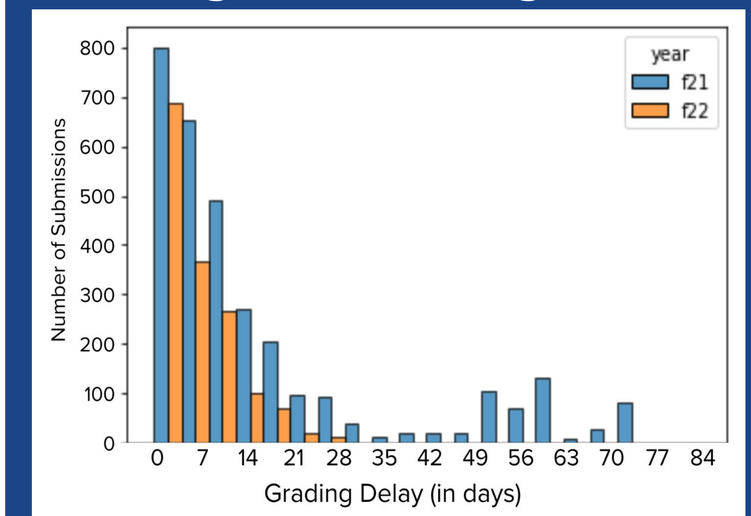
[1] Leyzberg, Lumbroso, and Moretti. 2017. Nailing the TA Interview… In ITiCSE '17. Association for Computing Machinery, New York, NY, USA, 128–133. https://doi.org/10.1145/3059009.3059057

uTAs for CS1: Before & After

	Before Fall 2022	After Fall 2022
Recruitment	Invitation only, largely based on grades	Application open to all
Selection Criteria	Success in CS courses, overall GPA, requests from professors, scheduling availability	Thoughtfulness in written and interview responses, empathy for CS novices and first-year college students, communication skills
Hiring Timeline	Position offers sent out 1-2 weeks before the start of the semester	Position offers sent out 4 weeks before the start of the semester
Training	1-2 hour orientation meeting with course instructor	2-4 hour course of asynchronous training modules delivered through Canvas

Results

Assignment Grading Time



Student Grades

