A Case Study of Environmental Factors Influencing Teaching Assistant Job Satisfaction

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Discussion

Have you ever been affected by your working environment while teaching? How so?

Introduction

CS Labs have it bad "dungeon rooms" in basements

Our TAs come in with little to no training and, on average, little to no prior experience

Novice teachers have been identified in the ed literature as most affected by environmental distractions

In this study we identified what environmental factors affect TAs and their interactions with students

We know that TA quality affects student success in CS1 [9] and retention [5], especially for minorities [7]; more student-TA interaction is linked to student success [6]

Context

UBC: large research-intensive university (∼45 000 students)

TAs teach 46% of our contact hours in 1st & 2nd-year CS at UBC

Undergrad and grad TAs : ∼60 UTAships, ∼150 GTAships

Labs: 20-30 students with 2 TAs in the room

Labs are standard in first & second year CS

No standard TA training

Methods

Interviews were broad; no direct questions on factors that improved their enjoyment (9 participants)

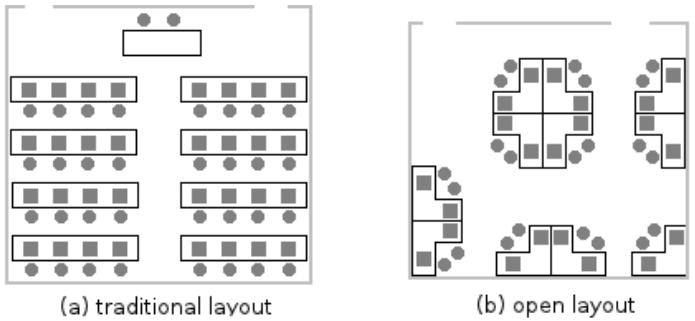
Factors which emerged in the interviews were identified

Observational sampling to verify the factors (8 different participants); we recorded the duration each TA would spend in a given state

Our ethogram is based on Paul's study of physics TAs [6]

Category	(A) Addressing the class	(O) Observing student(s) or partner	(I) Interacting with students	(T) Interacting with partner	(N) Non-interacting
Example subcategories (not full list)	**A:** announcement **L:** lecturing the class on a concept **C:** clarifying text in the lab	**PF:** passive obs. from the front of class **PW:** passive obs. while walking **A:** active obs. (>5s spent on one student)	**L:** listening to the student **F:** questioning the student **S:** socializing with the student	**G:** discussing strategy **U:** updating their partner **E:** explaining the lab to their partner	**R:** out of room **G:** grading **C:** using computer

Layout of the room


(a) traditional layout

(b) open layout

Interviewed participants preferred working in the open rooms.

Traditional classrooms were described as difficult to walk in, and that *"I'd wind up sitting at the front more."*

TAs in the open rooms spent 76% of their time interacting with students vs 40% in traditional rooms.

During "lulls" in student questions TAs in open rooms interact with students vs. sitting at the front of the room.

Lighting of the room

Quote: *"I like [well-lit room], it feels brighter. [The lab I teach in there] feels fun, friendly, not only amongst the TAs but amongst everyone."*

Participants noted better teaching conditions in rooms with more windows.

TAs in the rooms without windows described students as asking fewer questions, and that they would approach their students less often.

Observed TAs in rooms without windows spent more time doing "non-interacting" activities, particularly surfing the web and using their phones.

Intensity

Intensity: how often there are gaps ("lulls") between student questions (not the same as # of questions)

Medium-intensity was the Goldilocks spot; "breathing time". Low-intensity is boring; high-intensity is stressful.

Intensity is affected by pacing of the lab activities; checkpoints, lab design, amount of scaffolding.

We only observed high-intensity and medium-intensity labs

TAs in medium-intensity labs spent an average of 20 seconds on each student question vs 7 seconds in high-intensity

Length

Three-hour labs were described as more "tiring" and "draining"

Observing three-hour labs we saw no difference between TA behaviour in the first and second hours, but differences between the second and third hours

In the third hour TAs' behaviour was more low-energy: more observation, less announcements, less TA-TA interaction

Low blood sugar is a plausible explanation, as is decision fatigue; maintaining authority is tiring for new teachers

Social support

Social support was really important for our interview participants: through pair teaching and staff meetings

Security: *"If there's minor details I don't know I can ask him [my partner]. And if there's something I can't explain, then maybe [he] knows how to do it.... And it's funner when [he]'s around."*

Teamwork: *"I like teamwork. Two's a good number, two is perfect. It's really easy to come to agreement on things. And it's nice to have somebody covering your back."*

Social support

Collaboration in the staff meetings: one TA's *"favourite part of being a TA"*.

Group support: *"There's a really friendly atmosphere between the TAs."*

Feedback from instructors was reported as important; encouragement highly valued and a huge influence

Without social support TAs feel unsupported and unappreciated, consistent with literature

Discussion

Context-specific factors will vary university to university

Constant factors at UBC, like acoustics, ceiling height and air flow, may be different for you

What factors might be affecting your TAs?

How can you make your TAs' lives easier?

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