Learning Assistant - Multivariable Calculus Reflection

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Tags	Report Teaching

About the learning assistant program

> The **Undergraduate Learning Assistants (LA) Program in the Sciences at UCLA** is an **evidence-based**, multidisciplinary instructional strategy, in which **undergraduate students who have succeeded in a course receive credit to learn how to help the next group of students succeed in that course.** It is specifically geared toward **large introductory science, engineering and math courses**. LAs thus help facilitate active learning and collaborative instruction in discussion, lab, and/or lecture.
>
> The mission of UCLA's Learning Assistant program is to **EMPOWER STUDENTS** through inclusive STEM teaching. By facilitating collaborative and inclusive learning, LAs transform the STEM classroom into one that encourages **EVERY** student to ask, interact, explain, and deepen their own understanding.

Progress

Week 1 - 2

Seminar Topics

Time-management

1. Time Management from the UCLA Center for Accessible Education.
2. Top 10 Tips for Time Management from the UCLA Campus Human Resource.

Useful time-management practices I used:

One helpful time-management practice for me is the Pomodoro time schedule, because I have a very short attention span: Alternating between work&short break, or changing tasks once in a while helps me stay productive and interested in my work.

I have also started importing calendars this quarter, although not all of my courses have corresponding bruinlearn schedules. I find it much easier to plan my day ahead this way.

Preconceptions

Read this WIRED article and learn about peer "preconceptions" and how it can apply to your course.

Importance of addressing students using their names / Closed and open questions

Read at least one of the three articles about the importance of and tips for remembering names

1. https://www.forbes.com/sites/work-in-progress/2013/08/21/the-best-five-tricks-to-remember-names/#353cf9d4501fLinks to an external site.
2. https://www.psychologytoday.com/us/blog/managing-your-memory/201807/how-remember-namesLinks to an external site.
3. https://www.cnbc.com/2016/09/21/11-memory-hacks-to-remember-the-names-of-everyone-you-meet.html

- QUESTION: Summarize a key question from the upcoming worksheet/activity that students are likely to struggle with.
- CORRECT REASONING: How should students be thinking about or doing this content?

- MISCONCEPTION: What might students wrongly think is the right answer or approach to the question?

Question sandwich: closed-open-closed

- DO THEY NEED HELP? What (closed questions) can you ask students to check if they have this preconception?
- DO THEY NEED HELP? What (closed questions) can you ask students to check if they have this preconception?
- CHECK UNDERSTANDING: What higher-order closed question can you ask to see if the student can apply learnings to a new problem?

Establishing mission statement

My mission statement is to learn how to communicate effectively for active and equal participation in STEM. Through practice and reflection, I hope to recognize and respond to the different ways people learn/communicate, letting go of my preconceptions/hesitancy, so that my peers feel more included in the classroom and positive about their own abilities to overcome obstacles.

Identity object

Hi, my name is Marlene. My identity object is a photo of my footprints on the beach. I was in a hurry to walk away from the rising tides, as well as my friend who took this photo, so the shapes might not look like footprints. I chose this because I've always been living very close to the seaside growing up. I am from Lianjiang, a small town on the southernmost penisula of mainland china. Then i went to shenzhen for middle and high school. For those of you who are unfamiliar, shenzhen is a large coastal city quite famous for its mangrove park along the coastline. Then, i came to LA for college. I guess I am very used to all the troubles and beauty of living by tropical sea now. I have very low heat tolerance, and have had various health problems due to that in the past, to the point that i was on sick leaves a lot during the long summers when my peers were busy preparing for exams or having fun. But then, whenever i looked at this photo my friend printed and sent to me, i would be reminded that it is now up to me to choose where i stay and where i go, and that it is also up to me to decide whether i am willing to endure some discomfort for the sake of some of the good things in life, like freedom, friendship, a better education, etc. etc.

Potential challenges

- Were you able to engage with your peers in the discussions?

Yes. When someone has a question/I am checking in with a group, I would usually start by addressing the students sitting around and try to demonstrate the problem-solving process to all of them so more students could engage. I would ask for names&whether they are willing to help explain to peers if someone seems to grasp the idea or have clues about how to approach the problem.

- What challenges/barriers have you experienced so far

I find it hard to explain concepts regarding the directions of vectors, say when checking whether an angle is obtuse/acute/right. I feel uncomfortable leaving them confused but also feel like I couldn't explain more without directly giving them the answer/telling them to review the slides.

Additionally, the session time definitely poses a challenge. I have been leaving the classroom late because of answering some questions. The discussion is roughly 20min concept review, and 10min individual work, so 20min of group work is left, so some students were in a haste to get the answer and check the rest of their work. I usually go to whoever raises their hands and call for me first, but then that could mean there are students whose questions were left unaddressed. Or that the students more hesitant to engage are neglected. I am definitely willing to host/attend (if ever needed) an LA-host workshop/OH to help more students and fulfill my hour requirements.

Week 3-4

Seminar topics

Decreasing learned helplessness in students and fostering growth mindsets.

When this happens...	**Fixed mindset phrases**	**Growth mindset phrases**
A student struggles and then succeeds.	"Good job!"	• All that hard work and effort paid off! • I see you using your strategies/tools/notes/etc. Keep it up!
A student is easily done early.	"You're a natural!"	• Do you want to share your reasoning/ideas/thought process with your group? That can really help solidify your understanding. • I noticed you got through that

		pretty quick would you mind working with [student B] and I to work through the problem?"
When they are working hard but still struggling, or say "I'm just not good at this stuff!"	"Yeah, this stuff is hard."	• So you didn't do as well as you wanted. Let's see what you can learn from that. • What study strategies are you using? How about trying some different ones? • You are not there YET. • If we examine what led to our mistakes, we can learn how to improve. • You can learn to do it – it's tough, but you can; let's break it down into steps. • I've struggled *[with this topic or course or in general]* too, but I figured it out and I can help you figure it out too! Here are some resources that may help you.
A student seems to be lacking background knowledge, or study skills, and feeling hopeless.	"You can do it!"	• Have you considered using this strategy yet _____? • Have you looked at this resource _____, or gone to office hours? • What have you done so far? • Try to start – we can always address mistakes once I see where you are getting stuck. • Let's ask [another student] for advice—they may be able to suggest some ideas, or recommend some strategies.
When they don't put in much effort and then don't succeed.	"You just need to try a little harder."	• How can we break this down into smaller tasks so it's not so overwhelming? • What are your goals for this assignment/class/year? How can you make a plan to achieve those goals? • It looks like you're not that interested in this activity - why not?

Growth mindset

Mindset Assessment

Resources:

1. Paper: Summary of Mindsets on Math and Science Links to an external site.
    a. Read the marked portions
2. Video: The Power of belief -- mindset and success

1) "Right now, you are unsure about whether you can develop your intelligence. You probably care about performing well and you do want to learn, but you may not want to have to work too hard for it. You may feel a bit discouraged when you perform poorly at something." I think it's somewhat accurate that I feel discouraged easily when I perform poorly. I would, however, always work very hard if I am lagging behind despite feeling

frustrated because of all the academic stress that comes with it. I have accepted that my intelligence won't change much and I would always have to work harder to maintain my performance.

2) I think I might need a deeper level of scientific explanations (what chemicals in brain signaling, what psychological effects) to believe that my belief about mind growth actually fosters mind growth. But this is a very strictly western way of looking at the learning process. I don't doubt a growth mindset is very important as it encourages people to tackle challenges and not shy away from mistakes. Genius is one percent inspiration and 99 percent perspiration, even if intelligence is fixed, hard work is always needed.

3) C: "When they are working hard but still struggling, or say “I’m just not good at this stuff!”

I certainly feel similar sentiments when studying through some of my upper-divs materials. I think a good way to help would be to ask them to go over what they have tried so far, and tackle confusion/misunderstandings. I would probably also say something along the line of “I liked the effort you put in, but let’s work together some more and figure out what it is you don’t understand.”

Perceived fraudulence:

> "Imposter Phenomenon" suggests that YOU are the imposter, but the problem is actually the structural environment that makes so many feel that way. This is why we're moving to recognize the term as "**Perceived Fraudulence Links to an external site.**
> ", to understand this current state of feeling out of place is a temporary perception structured by our environment.

Privileges and biases

Assessments of implicit associations

Lists of privileges:

- White Privilege: Unpacking the Invisible Knapsack Links to an external site. by Peggy McIntosh.
- Ability PrivilegeLinks to an external site.

- Christian Privilege in the USLinks to an external site.
- Cisgender PrivilegeLinks to an external site.
- (Mostly Cisgender) Man PrivilegeLinks to an external site.
- Socioeconomic Status PrivilegeLinks to an external site.
- US Citizenship Privilege

One privilege I have that I often fail to acknowledge is my ability privilege. I could use public space without the need for any ease of access, and my family/social/school life/relationship has never been impacted by disability in any way. I have had other health issues that prevented me from going to school/having social interactions for an extended period of time before, but they were not permanent, and I could manage my daily life without help from others.

I feel most strongly connected to my gender and nation of origin

Fostering growth mindsets

To foster growth mindsets in students, I think I would incorporate more words of encouragement and acknowledgment. I would try recognizing what they have attempted so far, suggesting strategies to learn, and motivating them to help explain problems to underperforming peers, or try out the challenge problems. Instead of giving simple, indifferent responses like ‘yah this is hard’, ‘your work seems right, let me know if you have more questions’.

Team meet-up takeaways

Peer-leaning: one takeaway is to get more students involved in the problem-solving discussion/Q&As, encouraging them to help each other out because it reinforces understanding/students might be more comfortable receiving help from classmates

Equity: another one is to try reaching more to groups/students that are not so active in discussion, or are struggling on their own and hesitant to ask questions. Especially since we as LAs are oftentimes inclined to walk to whoever raises their hands first and gives us a lot of questions

Reflections

- To improve:

I think I would want to try having peers engage more and help explain problems to students who seem to be struggling with understanding certain concepts, instead of guiding them through the whole process solely by myself.

- Describe a situation in your own life (academic or not) when a growth mindset was important for you.

For a statistics class I took the past summer, I got the class lowest for my 1st midterm. I worked all mornings, sometimes from 6-12, and had labwork also. Classes were every other afternoon from 2 to 5 pm with no break, prof talked super fast, and all my classmates asked really good questions in class while my memory of distributions was very fuzzy, etc. The professor did host OH every day, even on weekends, so I made sure to urge myself to go to his OH, which forced me to work on the problems first so I managed to stay ahead of schedules, and he turned out to be a really caring instructor which gave me some helpful advice for learning his materials, so I ended up with a really satisfying grade. It would not be possible if I didn't tell myself that there is always time and space for improvement before finals. (even after!)

Seminar takeaways

1. In the seminar, we discussed the shared experiences of facing microinvalidations in STEM classrooms because of being women of color. Our efforts and achievements are doubted, leading to feelings of perceived fraudulence.
2. I have made progress in reaching out to groups and students that are less active in class. I would walk up to them, sit down, ask and write down their names. They were subsequently more willing to raise their hands and call for help when they had questions. From the seminar, we discussed the importance of wait time: practicing it would make students feel equally respected, and we are not impatient to move to the next group because they are perhaps slower than other students in formulating their thoughts or grasping the course content.
3. Next weekly goal: continue building growth mindsets and group work and reach out to groups I know less about.

Week 5-6

Seminar topics

Micro-aggressions and systemic inequity, continued

microaggressions in the classroom

Shared padlets on micro-aggessions by past LAs

Practice of red-lining, interactive maps: interactive HOLC 1939/Today map

Culturally-responsive v.s. culturally-neural classrooms

1. **Culturally Neutral –** When learning environments are tailored to ignore student identities, group work can be unintentionally uninclusive as students are talked over or discredited for part(s) of their identity.
    a. "***I am no longer a physics major.*** *In my class year, the physics major is entirely male. I used to love physics. Now, I love myself. I have switched to an Africana Studies major, and am in a department that listens to me when I speak and works tirelessly to create an environment in which all are respected."* *When you love physics, but physics doesn't love you Links to an external site.*by Anna Perry
2. **Culturally Responsive –** Since identity isn't something that can be removed at any given moment. Educators and learning environments work on incorporating various learning development approaches to acknowledge educational disparities and uplift student sense of community and belonging.
    a. "**Students cannot check their sociocultural identities at the door**...Therefore, it is important that the pedagogical strategies we employ in the classroom reflect an

> understanding of social identity development so that we can anticipate the tensions that might occur in the classroom and be proactive about them" *How Learning Works* Links to an external site.(Ambrose, Bridges, DiPietro & Lovett, 2010, p. 169-170)

Summary:

Culturally neutral environments ignore student identities and backgrounds, which could then lead to exclusive learning environments that disregard differences in learning styles and cultural practices that affect individual development.

Culturally responsive environments incorporate different learning strategies and examples to uplift students' sense of belonging and community no matter their disparities in learning.

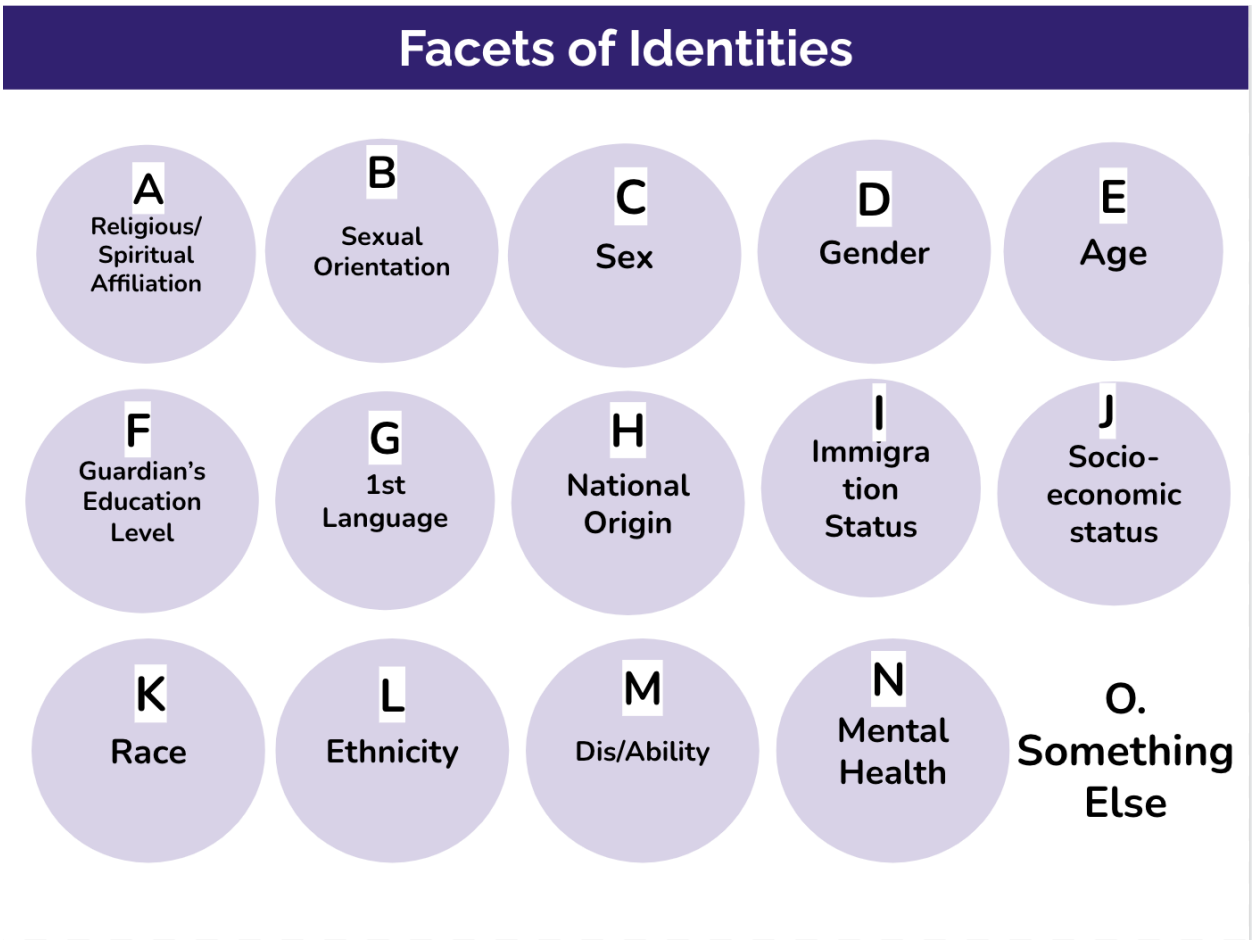
Examples:

I really like courses that incorporate class examples from different communities. The course content is made more lively and enjoyable, also creating a greater sense of inclusion for students from different backgrounds.

Stereotypes and social identity threats

Stereotype Threat (Ted talk)

infographic to help visualize how Stereotype Threat proceeds.



Response to micro-aggression

> Scenario:
>
> A female-presenting peer (Peer A) responds with a clear and appropriate understanding of the material. However, the rest of the group members seem unconvinced of the response.
>
> A male-presenting peer (Peer B) decides to interrupt Peer A and dismiss their previous points. Peer B ends up repeating the same talking points as Peer A. The rest of the group members then seem to agree with Peer B's talking points, while still discrediting Peer A's previous contribution.

Responding to Peer A: Thank you for providing key insights to solving this question. I think you have a clear understanding of the material and did a great job explaining it as well as starting the discussion.

Responding to Peer B: Thank you for your response, too. I think both A and you have a good understanding of the materials and are willing to explain them to your peers. Though I want to acknowledge that A has made such and such points clear in their response, and we should be building upon each other's answer than re-explaining them.

Responding to the group: The materials could be hard to grasp at the beginning, but it would be helpful to hear out how your peers think through them. Let's practice good active listening and ask clarifying questions if needed.

Reflection on being a bystander

An instance where I was being the bystander was when the administrative staff was talking to a research scholar in my lab who's not a native speaker, when she failed to hear what the scholar was saying, she interrupted them and questioned back very loudly saying "what? Sorry, I can't understand a word you were saying', and then proceeded to talk to another person without giving any time for clarification. Though they were talking about something that troubled the said scholar. If I could revisit the situation, I would suggest that since it was a circumstance that troubled the said scholar, it'd probably be best if they could explain it themself. And that every lab member should be respected and heard out patiently. This week, I want to create a more collaborative classroom environment by ensuring that peers are participating equally in group work.

On barriers in surrounding

I felt gender to be the greatest barrier to equality in STEM education. Although UCLA has done a better job in fostering gender equality in education than the previous schools I attended, it's still obvious that going to some of the upper division math, stats, engineering, and programming class, 1) gender gap, 2) male-dominant classroom dynamics when looking at who's more involved in Q&As with instructors and the group work in discussions. I recalled the very funny discussion seating for my math 115A where the only three girls all worked along sitting in the middle row while all the other dozens of boys formed their cliques and started talking about their girlfriends. It was not an inclusive learning environment for us, but gladly we had LAs who were willing to sit down next to us and help us during that quarter. 3) microaggressions in even class examples. This is for the algorithm class I took specifically; when explaining matching,

the example is ‘men were picking women to match, and the ideal situation would be each man end up picking the most desirable woman they could possibly match with given every man matches with a woman…’. This example includes too many underlying assumptions about gender and orientations, as well as the whole ‘men, picked first’ tone (because for matching you could actually start with women picking, or just don’t use women and men here).

Socioeconomic status is another big factor. This is probably a smaller aspect, but a lot of my classmates and myself included struggled a lot with some of the intro programming classes because it was a first-time programming experience for us. To have background experience in programming, or for the high school to have programming class, the school would at least need to be able to afford a computer lab of some sort, laptops for students if not, and hiring faculty to teach students. But I recognized I am fortunate enough to receive a high school education, one that includes English and higher level math courses because in my high school’s city 50% of my peers couldn’t even go to high school due to the shortage in education resources and the lack of citizen status.

I would like to educate myself on how race and ethnicity inequalities reflect in STEM education because I grew up in a larger cultural and ethnic homogenized society.

Self-care practice

Based on the article from UC Berkeley’s Greater Good Center - Ten Ways to Make Your Time Matter

I want to focus on the last approach #practice doing nothing. It means to endure the boredom and repetitiveness during the cumulation of skills, learning, self-growth, etc. Tell myself that changes are unlikely to happen in a week so don’t get disappointed or discouraged, keep up the current work and set a good pace, and wait for the change to happen. My plan is to set aside a portion of my time to learn or self-care or reflect on that’s not related to my schoolwork

Encouraging peers to talk about their identities

1. Some possible ways to encourage peers to share about their identity/culture without tokenizing or putting them on the spot would be: correctly using their names and pronouns, checking in with the groups starting with asking about how’s their weeks going, any destressing events/plans after midterms/for holidays, be mindful of the

differen culture and religion practices that could impact students' learnings, and giving students sufficient time and space for communication, practice wait time to ensure they felt respected and heard.

2. I have been getting to know and address more peers by their names, and feel like the group work has been going really strong in the classroom. My goal is as last week, to keep checking in with peers that engage with others less in the discussion and try my best to build connections with them

Second meetup takeaway

We discussed some of the key topics from the pedagogy seminars and self-care practices. The conversations about microaggressions, systemic inequality in STEM edu, and perceived fraudulence are highly relevant to our academic dailies including our LA duties. We should apply what we've learned and practiced in seminars to help peers and ourselves feel endowed with confidence and a sense of belonging in classrooms so they could learn to their fullest :)

Pedagogy techniques applications

Core Techniques	**How well are you applying this based on evidence so far?**
EMPATHIZE with struggling students	I think I could definitely improve with this part, especially because someone put "disagree" under "LA check in with my every section, especially when I am struggling". I think I should be paying more attention to students I have less interactions in class, (although the classroom could be hard to navigate sometimes), instead of just walking straight to whoever calls for my help
Use GROWTH MINDSET feedback	I believe I have been able to implement this core techniques because the LA observing me put 'Always' under the related tab. I usually start my response with pointing out to peers what they have managed to work out when they are struggling/being confused about certain problems, so they don't feel completely clueless/diffident.
Use student NAMES, even for harder-to-pronounce names	I haven't been remembering all of their names, so the response under that tab could vary from strongly agree to disagree. I would definitely try getting to know more peers and building a closer connections for the next half of the quarter.
Circulates so every group gets to	Same as empathizing with struggling students, I feel like i sometimes don't have the time to interact with every one, and might have focused too much on some groups that are more outwards with their questions. I think

interact with an LA each section	for future discussions, I would try reaching to those I interact with less first and start walking around during the individual work time as well, per suggestion from one of the feedbacks.
Creates an environment WITHIN each group where everyone in the group is engaged	I think I have been able to maintain an engaging environment for the groups in my discussions. The responses are Agree and Strongly Agree under the tab 'LA helps to create an environment where every members in my group can engage'. I have been holding up notebooks or using the board on the side so more people in the group can see, asking peers to explain problem-solving, and checking understandings with thump-ups in the end.
Use WAIT TIME	I think I have been practicing wait time throughout the discussion, and my observers all put 'Always' under the related tab. I understand the importance of giving peers the time to explain their thought processes and to react to the questions I ask. And that wait time is also a way to show respect, patience, and willingness to help towards my peers in classroom.
Redirect questions to FOSTER COLLABORATION → *"What do other group members think?"*	I have been able to redirect questions most of the time, especially when I notice more groups sitting nearby are listening to what I am explaining. And would do a quick check of understanding by the end. This is evidence in my observers' feedbacks and the group work related ones where they response most of the time/agree.
ASK closed question(s) to see where confusion is.	I think I am perhaps not doing well with mixing closed and open, because one of the student's suggestion is to 'provide more straightforward explanation'. I think I should use closed questions to check confusions to make sure my response is to-the-point.
Ask OPEN questions to make answers more safe or meaningful → *"What do you already know or understand about this, even if it's just a few key words?"*	I think I could definitely improve on this part, because under the tab 'My LA ASKS me why something is true more often than they EXPLAIN to me why.', one peer responded 'DISAGREE'. I think even when questions are phrased in a way like straightforward explanations are demanded, I should still hear out what they think/check their understandings first. Helping them think through their confusions can perhaps lead to more concrete understands as well as better memorization.

Reflection, tying back to original mission statement

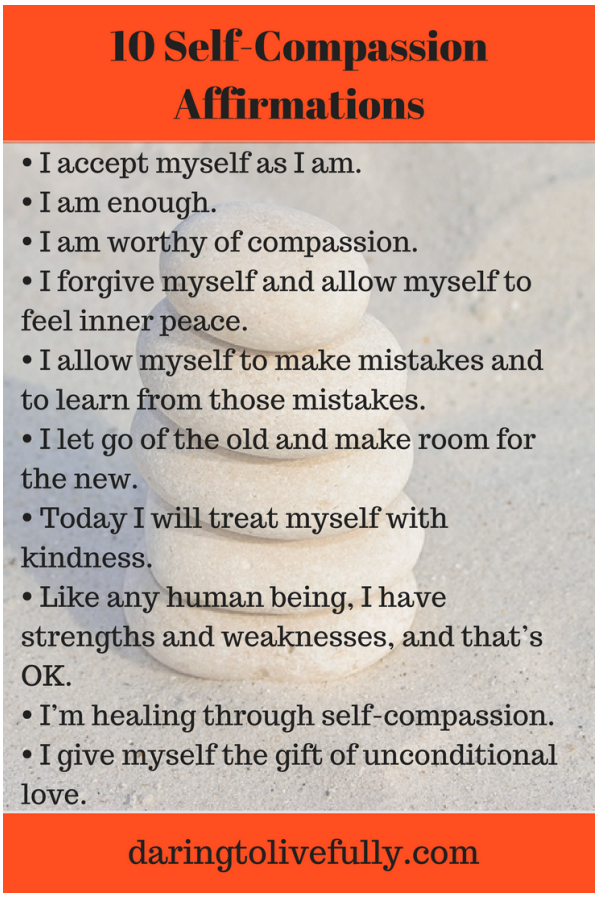
My original statement is to foster active and equal participation in stem classrooms with effective communication. I feel strongest in wait time and fostering group work, but

would need to improve more when it comes to identifying students that are engaging less, more hesitant to ask questions, making closer connections with students through using their names and emphasizing with them by catering to their levels of understandings of the course.

Week 7-8

Seminar Topics

Self-compassion



SEL (Social-Emotional Learning) for Adults: Self-Awareness and Self-Management.

Self-Compassion

Time blocking

Items to include on your Time Sheet - Recurring events such as:

- Work, Classes, Exams, Quizzes, other Due Dates etc.

- Family Time, Community Service, Religious Service, Exercise etc.
- Study/Homework Time, Tutoring

Trying Out Time Blocking

ABC’s common negative thoughts

four ABC's

ABC's (Adversity/Activating Event, Belief, Consequence)

ANT's (Automatic Negative Thoughts)

Is resilience enough?

Factors that can’t be addressed by resilience alone

External factors: discriminative, non-inclusive, unaccommodating environments for underrepresented, underprivileged groups

What it should remind us of?

It reminds us to always exercise patience and demonstrate empathy especially when it comes to peers who might have been struggling in class because of the said external factors. To not label them as 'bad students' without seeing the disadvantageous environment they have been studying in. To try our best to foster a growth mindset and build their confidence in future learnings.

Identify whether peer is struggling with external factors or not working hard enough?

I think one strategy is to acknowledge what they have attempted so far and ask for their plans as well as their confusion about the course in general to gauge if there is anything that's been keeping them from achieving what they could in this class. Let them know the available resources and check back to see if they are getting the help they need based on their own availability

Pedagogy techniques evaluation and plans for improvement

Steps	**Details**	**Example inspired by Head LAs (DELETE AND REPLACE TEXT)**
GOAL	**Describe the goal you want to achieve for the remainder of this quarter.**	I want to help create a classroom where everyone could engage and feel confident in what they are learning by addressing peers using their names and show that I value their questions and thoughts.

REFLECT	**Think about what techniques & approaches you've tried incorporating so far and what you plan to incorporate** 1. **Strengths - What techniques/approaches have you previously attempted to accomplish this goal (build on those)? How did they contribute to your goal?** 2. **Struggles - What techniques/approaches have made it hard to approach this goal? What about these techniques/approaches do you find to be challenging?**	**STRENGTHS**: I have been practicing wait times when I interact with peers and giving them credits for the parts they have managed to derive on their owns as encouragement. **STRUGGLES**: I have been struggling with using names to address my peers. I know some but not all of their names. I feel like using names more could encourage my peers to interact with me in discussion whenever they have confusions. Sometimes a general inquiry like 'how are we doing with the quiz' might not be enough to initiate helpful conversations, with the use of name it might work better without sounding pushy.
PLAN	**Indicate a concrete plan for incorporating LA techniques to overcome past challenges and to help support your goal.**	1. I think I should utilize the grouping chart I have previously to familirize myself with the peers in each group. 2. Make time during discussion to sit down next to peers I have engaged with less and ask them with open questions about the materials so they are more likely to engage. 3. When answering someone's inquiry, make sure to address the entire group to include more peers when answering, and make sure everyone is clear about the topic in the end.
APPLY + MONITOR	**Indicate how you will monitor whether and where improvement is happening** 1. Consider who or where you can get feedback from. 2. How can you reflect on your progress?	1. I think I can keep track of the interactions I have in class to ensure I am reaching out to those I have engaged with less. 2. I could also talk with the other LA in my discussion to see if there are any peers that are less willing to engage/only engage with one of us. 3. I will also check my feedback form constantly, and keep providing the

		link in class. 4. Maybe also note down the open questions i ask that gets Q&As going!

Part E-2:

1. Plan to interact with the peer I engage least with:

I would make sure to know their names first and address them using the correct pronunciation. I think I would also observe a bit first to see if they have a group that they feel comfortable working with. If so, I would try checking in with the entire group, and addressing them in the process – asking for their thoughts and perhaps encouraging them to explain something to the group if possible. In such way, I hope to make them feel that their thoughts are valued and they have been making progress in learning the materials. If they prefer working alone more, I would find the time to sit down next to them and ask if they have any questions. If they seem reluctant to engage, I could begin with the more general questions such as ‘how are you feeling about this specific part the TA just discussed’, ‘which problem you find the hardest’, etc. And make sure to keep note of their answers so I could keep track of their progress and find a chance to engage during the next discussion.

1. Engage least with, feeling:

I notice that there are a few peers in my discussion that feel more comfortable having their groupmates ask me a question and explain the answer to them. I am glad that they are getting help with their works despite not coming from me directly, but would try engaging the whole group to include them in the discussion as well.

1. Useful tips:

I think ‘Finding a time to interact with the peer’ section has some really good insights: the acknowledgement of lack of engagement in the past could be a good first step, saying ‘Hey, I know I haven’t had a chance to check in with you regularly, so just wanted to check in on how you’are doing so far.’ But make sure to not walk away too hastily if they only give curt initial responses, and perhaps try picking a good time like when they are not in the middle of writing something. And ask the more general questions on learning the materials, instead of going straight to ‘any questions with the worksheet’, might have a better chance of keeping the conversation going.

1. Impact:

They might feel awkward and unsure about their own learnings in the discussion. I should make sure to not shy away from interactions (appear awkward or reluctant myself, or not asking for/using names to address) and acknowledge that it was on me not checking in with them often enough previously.

1. Phone remainder:

I'll be writing this down on the notebook I use to explain stuff during the discussion!

Dispelling negative thoughts

1. Steps to dispel negative beliefs:

I find the **ABC's of common negative thoughts** really helpful! I like overthinking my mistakes and awkward moments a lot to the point that it is no longer constructive self-reflection anymore. I think to dispel negative beliefs it’s important to realize there to be ones in the first place. Doing so could help as face the source of negative beliefs. And when we can’t help but feel bad about it, I find talking to friends about it really helps. And reminding myself that even if its really bad, what’s happened happened, it’s time to look forward and try changing it. So i dont’ get stuck in the negative thoughts.

1. Self-compassion

I was asked to talk to a family friend’s kid recently because she was struggling a lot in school due to relocations and medical conditions. While talking through her struggles and helping her with future plan and all i realized i’ve been through almost the same things. This really makes me think of the sentence ‘treat yourself like you would treat a friend’. we had a deep talk on the hardships we were going through, and how we shouldn’t be too harsh on ourselves sometimes especially in occasions that resilience alone wouldn’t help.

1. Weekly-goal

I think I am getting better at involving peers to help each other out, which ties back to my goal of engaging everyone in the STEM classroom so they can participate equally. I've kept my LA mission in mind and realized that rushing to provide the answer myself isn’t the most effective way of facilitating peer-learning.

Teaching reflection

1.1 I think my not having my first/second languages being english makes me less confident in a lot of situations where I have to explain/ask about complex ideas or thought process. I could shy away from interactions when people don’t get what I am trying to say initially, especially on occasions with a lot of my peers present. This could be true for some students as well, they might be hesitant to ask questions and interact.

1.2 I think trying different ways of communications could help engaging more students. For example, using visual aids, or having peers explain certain concepts so they could learn through teaching and help each other out. Peers not understanding me perfectly shouldn’t be a reason for me to stop trying to reach out to them.

2.1 Successful strategies in engaging peers and why

I feel like sitting down next to a peer/among a group and demonstrating the process really helps with getting their attention and input. I would start by writing down what they say they know so far, and then asking for potential next steps to guide them to finish the through process. Would also give them the notes afterwards.

2.4 Least engage with peers, potential biases:

I was able to engage with some students that I have the least interactions with. I also addressed them with the names I saw on the worksheets. I reminded myself to ask how they were working on the worksheets first once the groupwork time began, and to check back on them after some time as well. Although I failed to acknowledge that I was responsible for not checking in on them more often previously, which meant they might be more hesitant when interacting with me than some of the other peers, because they weren’t really used to interacting with the LA. thereby they might be slower in providing thoughts, i felt like i might rush things a little bit not aware that i should keep wait-time in mind more.

Week 9 - 10

Seminar Topics

Self-care

Impact v.s. Intent

Misconceptions about learning/thinking

How we think v.s. how we learn

Third team meet-up takeaways

We talked about some of our great experiences in the LA program so far and what we would like to get feedbacks on. I've really enjoyed helping my peers learn and all the

seminars on learning strategies, self-motivations, and alleviating systemic inequities so far. I would like to get more feedbacks on anything really.

Teaching reflections

Being an LA this quarter has been a really rewarding experience despite the strike towards the end. I have come to understand the different obstacles students might face while learning in college and how best to help them/myself as both a peer and an educator. From all the positive interactions I had with my fellow LAs, class instructors, and students, I have become more confident in my own ability to communicate and adapt.

My goal was to strengthen my connections with the students and make all of them feel respected and valued as they learn and participate in the classroom through addressing them by their names. Although with the strike I only had two sessions and hosted a review after that, I was more aware of my actions and tried my best to achieve my goal. In my end of the quarter feedback, most my peers indicate that i have been addressing them with their names and thanked me for helping them in discussions in the comments. I wish I could attend more discussions towards the finals, but given the circumstances i could only provide help online like through campuswire and zoom session. I have kept up with my goal in these moments to make sure I am using peers' names whenever possible and answered their questions based on their existing understandings.

Peer education outcomes

Peer evaluation form

Experience summary:

UCLA Undergraduate Learning Assistant (LA) Program
New LA for Calculus of Several Variables - MATH 32A

· Effectively explained multivariable calculus concepts and carefully created instructor-reviewed learning materials with evidence-based pedagogical techniques in both classrooms and online settings.
· Successfully reinforced growth mindsets in students and boosted students' confidence to overcome obstacles and apply their learnings in future.

· Demonstrated communication skills through interactions with instructors, teaching assistants, and other learning assistants in weekly meetings and review sessions.
· Assessed existing systemic inequities in STEM education, discussed strategies to alleviate classroom power imbalance and exclusion, and carried out plans to address withdrawal and microaggressions through seminars and reflection journals.
· Recommended ways to improve course structure and helped maintain clarity within the course by consistently providing feedback.

(This quarter, I would be an learning assistant for CS32, Intro to CS II which covers data structures, search algorithms, and algorithmic analysis in C++)

PART 1:

LA Program Learning Outcomes	**Degree of Learning**	**Evidence**
1. REFLECT on and develop your views on teaching and learning, for yourselves and others.	I have learned more about the systemic barriers in STEM classrooms and how we could alleviate their lasting impacts as peer educators. I have also learned how to dispute negative beliefs about ourselves, respond to others' frustrations and disappointments in their progress, and foster growth mindsets in both my peers and myself.	In my week 5 's post-seminar reflection, I created responses to a scenario of microaggressions where a student's answer is neglected and overtalked by someone else. The practice helped me to be more aware of microaggressions and trained my reactions to engage properly instead of being a bystander. In my week 8's post-seminar reflection, I pointed out the ABC's of common negative thoughts to be "really helpful" and discussed my steps to stay positive. In Part E, I also elaborated on how I had been fostering growth mindsets in my peers, as evident in my LA observation feedback which had all 'Always' under the related tab.
2. Demonstrate	I have	In part D, I listed my progress on the

IMPLEMENTATION of all core strategies + IMPROVE in one: (a) Wait time, (b) redirect questions (vs. explaining); (c) check for understanding; (d) foster collaboration.	demonstrated implementation of all core strategies and constantly reflect on my practice throughout the quarter, as evident in my feedback, journals, and my peers' responses to my practice.	implementations of the core techniques at that point. Then in part E2, I came up with a detailed plan to use names to engage students more in the discussion based on my feedback. Also in this part, I noted down my strengths and weaknesses in practicing the core techniques. I pointed out that I could improve on how I empathized with struggling students, as suggested by a peer LA observation rating ("Sometimes"). Toward the end of the quarter, I believed I had made progress in using this technique by heeding how students felt about the course materials. Because of the strike this quarter, many of my peers were not able to receive help from the TAs on the second challenge problem set and the last two exams. I have kept this in mind and responded to my peers in an encouraging way. Some specific experiences were: In the LA-organized review session for midterm II, one peer was frustrated with a proof-based problem and claimed they would not be able to solve it during exams. I acknowledged that proofs could seem intimidating at first glance, but we could tackle the problems by reminding ourselves of the key properties related to the topics. I then guided them through the problem and noted down the process for later reference. The peer responded that the problem made much more sense in the end. Approaching finals, I also shared my past experience of struggling academically during difficult times when I was not able to get help from my instructors/peers (being on the verge of getting dismissed from school). One peer said they could never have guessed because I seemed smart and knew the course materials very well. I then used my story to encourage them to practice self-compassion (this quarter was hard because

		of external factors) and not to feel disheartened because learning and progress took time. As long as they kept a growth mindset and kept seeking help, eventually, they could master the materials. On both occasions, I had put myself in my peers' shoes and motivated them with empathy.
3. EXPERIMENT with a variety of other evidence-based strategies for helping students learn in collaborative environments, and REVISE these strategies based on feedback.	I have experimented with other learning strategies and evaluated their use through evidence.	One strategy I have experimented a lot with is asking a mix of open and closed questions to build understanding, because for maths open questions could be hard to arrange. From my peer LA observation, one comment indicates that *'Marlene is doing great at using open questions to gauge peer understanding. She often uses the previous sections of the discussion sheet to guide her peers in the right direction ("Try taking a look at part 1, applying what you know about the magnitude of velocity (speed) and what that means about the acceleration." OR "If you were given cos and sin, what are some values that you might find when calculating?")'* While this was from the first round of observation, one of my mid-quarter feedback comments claimed that the peer felt "More straightforward explanations" would be helpful. From seminar discussions on practice we learned from observing other LAs (also noted in part B), I have come to realize sometimes visual aids would be more helpful in terms of explaining and asking about concepts in multivariable calculus. While simultaneously helping with grasping the attention of the entire group and engaging all of the peers. I then started using the boards and my notebooks more in the discussions where I would pre-draw graphs to be completed by my peers as I asked them about concepts like motion/velocity/acceleration. For one of the

		challenge reports, I have also written programs to help with visualizations. My peers reacted positively to such tools and asked to keep the completed graphs afterward. In the quarter end feedback, 22.2% noted big improvement while 67.7% noted “already doing we;” for “facilitate learning with a group of peers”.
4. Increase CONFIDENCE in your abilities to learn, overcome obstacles + succeed in major.	I have become less hesitant in engaging with other peers in my own class and interacting with my TA and instructors. I have also found the strategies of peer learning helpful in my own groupwork.	In both my week 6 and 9 reflection session takeaways, I’ve noted down my own growth both as a student and an LA. I also felt my understanding of this course has strenghtned when I was working through the materials. I had kept weekly email correspondence with my TA during the quarter where I would shared my answers and notes to the quizzes, actively engaged in content meetings, carefully created problems and solutions for practice midterms, come up with programming/visual aids for challenge problems. For the “comfortable with the materials tab”, half indicated “Agree” while the other half indicated “Strongly Agree” in mid-quarter feedback. And 77.8% indicated “already doing well” in quarter end feedback.
5. Further develop awareness of the diversity of students and INCLUSIVE teaching practices.	I have become more aware of the diversity of our student bodies through the various statistics and examples in the seminars	In part C, I have reflected upon some of the systemic barriers in STEM classroom, and areas that I wanted to pay more attention to. In both part E and F, and during seminars, I’ve come up with and reviewed responses towards students who are frustrated with their own progress in class. The practice made me more aware of the different hardships students might be facing, and how we could help them. My peer LAs comments also demonstrated that I had reflected on my practice and made concrete plans to engage withdrawing peers and make every student feel included and respected in the classroom. For the “made me feel like I belong to

		STEM", half indicated "Agree" while the other half indicated "Strongly Agree" in mid-quarter feedback. And 77.8% indicated "already doing well" in quarter end feedback.
6. Suggest ways in which education could IMPROVE, either within content course or broadly.	I have suggested ways to improve content course and education through the various feedbacks I provide to my peer LAs and the LA program.	In part B, both rounds of LA observations, and in my feedbacks to the LA program throughout the quarters, I have suggested to my peers and the course on ways to improve. Some of the suggestions include: 1) be more mindful of neurodiversity and incorporates relevant information (specific ways of learnings, accommodations, etc.) for the seminar modules about learnings and making plans. 2) use trello instead of google doc for weekly reflection journals to better keep track of tasks, link external resources, and prevent the loss of progress. 3) Add important links under the home tab of the Bruinlearn page to feedback forms, LA expectations, logistic sheets, docs, forums, and common Q&As on a padlet/trello would be nice!
7. ENHANCE COMMUNICATION skills through exchange with students, instructors, and one another.	I have significantly enhanced my communication through interacting with students, instructors, and peer LAs throughout the entire quarter.	From my feedback comments, for my strengths, students put down *'communication', 'helpful in showing how to work through problems'*, as well as '*Additionally, whenever my groupmates or I have asked her about any content related question, she has been able to answer the question in a way that forces us to utilize/think about a formula or theorem in a different way rather than just blindly copying down what she says.*' which all demonstrate that I've had effective communication in sections Also from my ped head's response, I have been contributing to the discussions in seminars and sharing my own experiences in constructive ways.
8. Further VALUE and get more excited about	I am always both nervous	In my week 10 and padlet responses, I have talked about how I valued being a new LA

interacting with LAs, instructors, and students.	and excited for the upcoming seminars, and thinking about how I could do better.	this quarter. I also motivated my peers in the discussions to apply for LA positions, and emphasized that we valued their past struggles and mistakes in the course greatly and believed their own growths could be use to encourage peers in the future. That the program doesn't require students to have good grades in the class to apply. That I had gained a lot from the pedagogy seminars about teaching, learning, self-care, and compassion, things that I felt would be very useful in my future academic journey. I have also accepted to become an LA for another physical science course for the Winter quarter because of the wonderful experience with my LA team and my course.

PART 2:

My goal in part E is to strengthen my connections with the students and make all of them feel respected and valued as they learn and participate in the classroom by addressing them by their names. Although I only had two sessions and hosted a review due to the strike, I was more aware of my actions and tried my best to achieve my goal. In my end-of-the-quarter feedback, 77.8% of my peers indicated that I have been addressing them with their names and thanked me for helping them in discussions in the comments. I wished to attend more discussions toward the finals, but given the circumstances, I could only provide help online, like through campuswire and zoom sessions. I have kept up with my goal in these moments, ensuring that I used my peers' names whenever possible, checked their understandings of related concepts first, and then guided them through the problem-solving based on their existing knowledge.