



The Mentor's Perspective:

**Exploring Inclusivity Within the University of Utah's
Learning Assistant Program Introductory Science Courses**

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Agenda

- **Introduction**
- **Methods and Analysis**
- **Practice Coding**
- **Results**
- **Implications**

The following presentation is provided as a courtesy. It cannot be distributed or shared but can be used for reflection on personal teaching practices. These findings should be published in 2025 or 2026.

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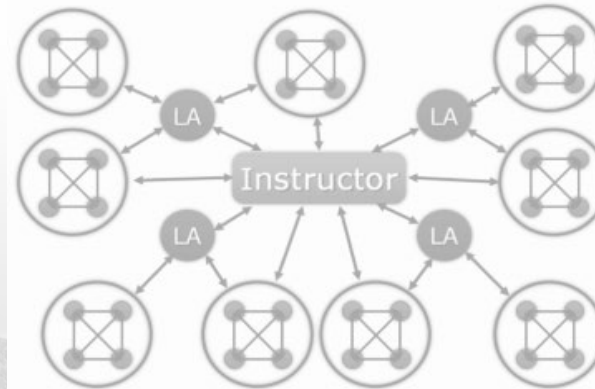
INTRODUCTION

The Learning Assistant Program

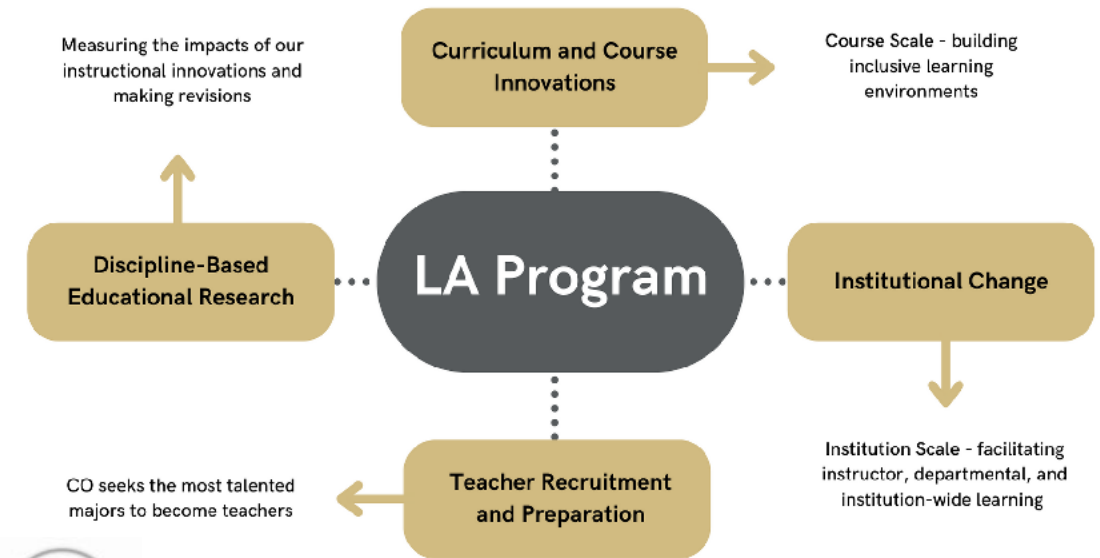
The Learning Assistant Model was developed by the University of Colorado Boulder in 2001 [Learning Assistant Program, 2022].

The program was adapted by the University of Utah in 2017 [Center for Science and Mathematics Education, 2024].

“LAs' identities both as students and instructors break down traditional power structures in classes leading to more students having a voice in their own academic affairs” [Learning Assistant Program, 2022].



Learning Assistant Model Goals



INTRODUCTION

How is Inclusivity Perceived by Learning Assistants?

This study investigates how inclusivity is observed by learning assistants when mentoring the student.

The surveys were administered to learning assistants at the initiation and conclusion of both the Spring 2021 and Fall 2021 semesters.

A pre and post survey evaluated the inclusivity perspectives of 32 to 60 LA's involved in a STEM Learning Assistant Program for introductory chemistry, biology, and physics courses at the University of Utah.

The following prompts from the survey are used in this study:

1. What does an inclusive and equitable course look like?
2. Explain how an instructor can actively promote an inclusive and equitable course.
3. Explain how a learning assistant can actively promote an inclusive and equitable course.
4. Explain how students in the course can actively promote an inclusive and equitable course.



METHODS & ANALYSIS

Inductive Qualitative Content Analysis

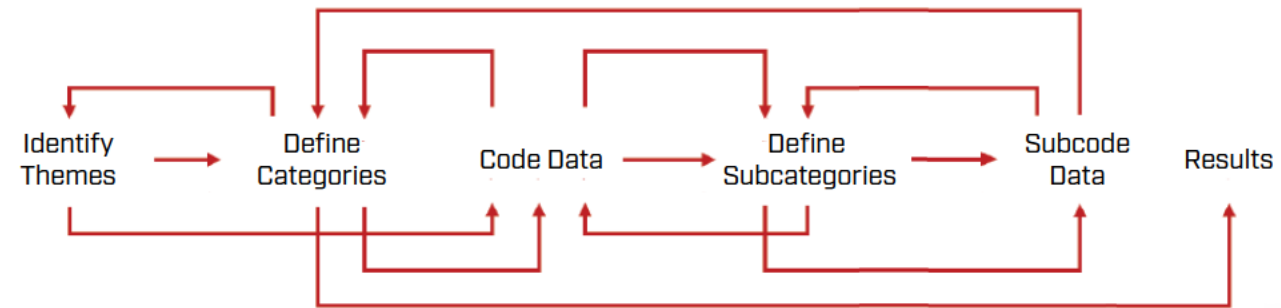
The surveys were analyzed using inductive content qualitative analysis [Cho & Lee, 2014].

The categories for the explored themes were generated by recursively reviewing responses until a consistent consensus was reached between two reviewers for each prompt response [Hosbein & Barbera 2019].

The frequency of categories generated for a prompt were compared to one another to evaluate what the LA valued using percentages.

Comparing the differences between categories across all four prompts provided a limited perspective as to how a LA perceives what can be done to promote inclusivity.

The following diagram demonstrates the analysis of learning assistants' responses to the survey prompts:



PRACTICE CODING

Which Practices Can Instructors Use to be Inclusive ?

Coding requires the evaluator carefully selects a category which definition best matches the quote and matches how similar quotes were coded (Cho & Lee, 2014).

Established definitions produced by the analysis for the categories allow evaluators to come to an agreement while processing data (Jacoby et al., 2008).

Practice Time:

You will study the definitions from the codebook and code 15 data points using Kahoot in 10 teams.

Please designate someone:

- to respond in the Kahoot.
- take a picture of the codebook.
- take a picture of the guide questions.

The following questions serve as a guide for coding and are listed in order of priority:

- A. Do the phrases in the quote match up with the definition for the category?
- B. What action is the LA asking the instructor to take?
- C. Could all the phrases within the quote fit within the scope of classroom environment definition?



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Provides Academic Assistance	The teacher supports students individually or in small groups by giving feedback, clarifying concepts, and adjusting explanations.

“Reaching out to students who may be struggling instead of praising students who are doing good or well in the class.”



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Makes Connections with Students	The teacher builds a personal connection with the student by being approachable in one-on-one or in small group settings.

“If an instructor wants to promote an inclusive and equitable course actively, at least he should be friendly to any student in the class to make students feel like he/she is their friend.”

“Speak to every student! It’s difficult in larger classes, but being the first person to reach out to a student is very personal and it makes them feel like they matter.”



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Influences the Environment	The teacher creates a positive, inclusive, and engaging learning environment that respects all students, values their contributions, and promotes active learning through supportive and intriguing lectures.

“Instructors promote inclusive and equitable courses when they periodically remind students of the values they hold in their classes. In my past experiences, I have found when instructors do this, there is less opportunity for students to act disrespectful towards their peers”

“Thank students for asking questions. A simple thank you goes a long way.”



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Accounts for Human Aspects	The teacher shows empathy by validating students identities, being impartial, considering mental health, and avoiding bias.

“Facilitate learning in the best of their ability by using their understanding of how students learn.”

“Treat them how the instructor would like to be treated”



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Influences Student Participation	The teacher engages students by inducing participation, verifying comprehension, using discussions, and adjusting to student needs.

“They can try to include less vocal/confident students in group discussions.”

“By giving many opportunities for students to ask questions.”



Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.

Category	Definition
Establishes the Course Structure	The teacher and learning assistants create a clear, accessible course framework with detailed plans, resources, and accommodations in-person and online.

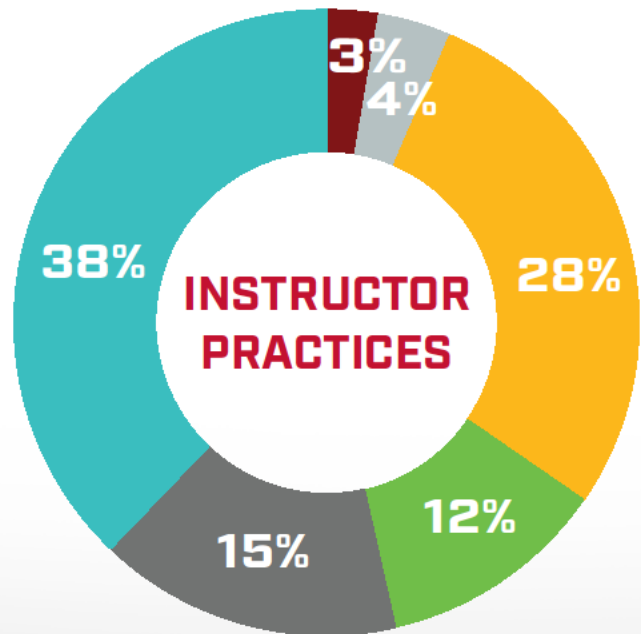
“I think provided extra studying resources online allow students to keep learning incase they cannot make it to study groups due to work or other matters.”

“State the course goals, objectives, and expectations at the beginning of class.”



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Prompt 2: Explain how an instructor can actively promote an inclusive and equitable course.



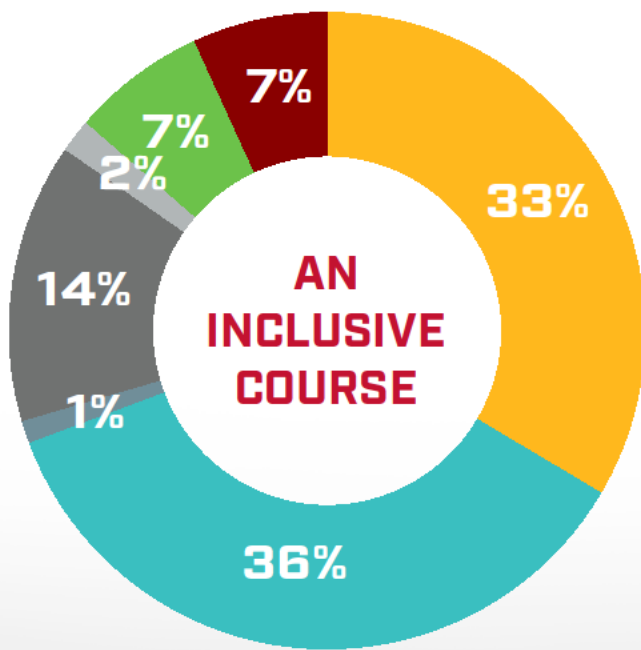
Category	Definition	Learning Assistant Quote
Provides Academic Assistance	The teacher supports students individually or in small groups by giving feedback, clarifying concepts, and adjusting explanations.	"...by being willing to make adjustments to the course if necessary to help the students succeed in learning the material."
Makes Connections with Students	The teacher builds a personal connection with the student by being approachable in one-on-one or in small group settings.	"....by letting down [their] own hair every now and then....joke around appropriately... allow small talk as long as course work gets done."
Influences the Environment	The teacher creates a positive, inclusive, and engaging learning environment that respects all students, values their contributions, and promotes active learning through supportive and intriguing lectures.	"...by using positive and uplifting language, demonstrating patience, and treating all questions with respect ['no question is a dumb question']."
Accounts for Human Aspects	The teacher shows empathy by validating students identities, being impartial, considering mental health, and avoiding bias.	"Give all students the same treatment and search yourself for biases, even if you feel you have none."
Influences Student Participation	The teacher engages students by inducing participation, verifying comprehension, using discussions, and adjusting to student needs.	"...by making sure that... the groups are small enough to ensure that they all have a chance to interact with each other."
Establishes the Course Structure	The teacher and learning assistants create a clear, accessible course framework with detailed plans, resources, and accommodations in-person and online.	"... being transparent in their expectations... by setting clear boundaries... show students that they are willing to work with them to make the class as effective as possible..."

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Prompt 1:

What does an inclusive and equitable course look like?

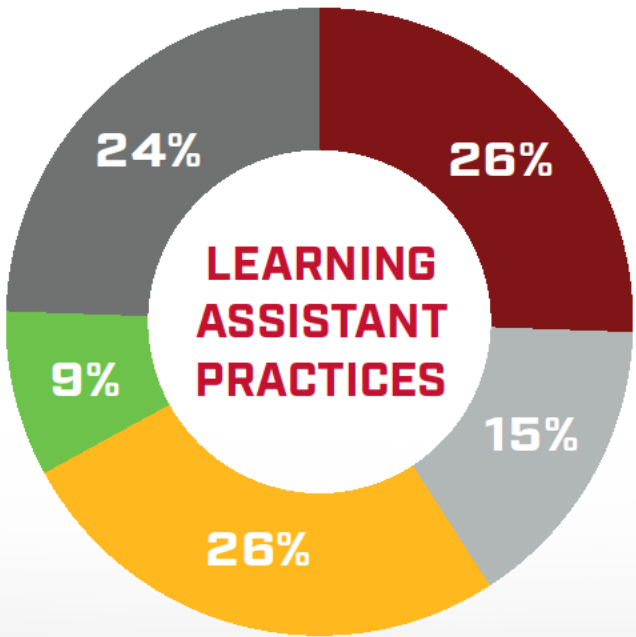


Category	Definition	Learning Assistant Quote
Classroom Environment	All students feel welcomed, respected, and comfortable promoting open-mindedness, positive interactions, and culturally sensitive communication is present.	"...it's obvious every student's opinions and situations are important to the teacher, and that there is mutual respect between the teacher and the students..."
Course Structure	The importance of transparency, flexibility, availability, and the use of unbiased practices are emphasized in course's organization.	"...a supportive learning space where all students feel welcomed, comfortable, respected, and that they belonged..."
Student Agency	The learning objectives help the students have an active role in the coursework.	"Everyone is given a chance to succeed. It is up to the individual to take the chance."
Participation	Everyone has opportunities to discuss ideas which includes students who actively ask and answer questions aloud in the classroom.	"I find inclusive and equitable course is where there is an equal opportunity to participate, and those who don't are encouraged to."
Student-Student Interaction	The students engage in positive interactions and promote personable conversations.	"Everyone is talking about the projects their working on and their daily life."
Student-Instructor Interaction	The professor engages with each student individually by welcoming, affirming, and seeking their input with active questioning.	"...the professor enjoys engaging with students...people can tell when the professor genuinely enjoys and wants questions..."
Multiple Teaching Strategies	Multiple teaching practices assist students from all backgrounds.	"...no matter how a student learns, they have the resources needed to learn the material."



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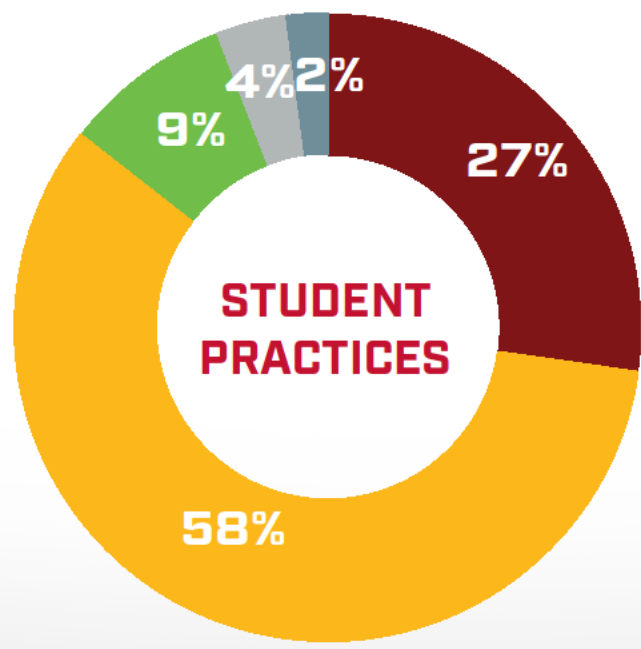
Prompt 3: Explain how a learning assistant can actively promote an inclusive and equitable course.



Category	Definition	Learning Assistant Quote
Provides Academic Assistance	The learning assistant supports students academically, helps them navigate the course structure, and facilitates communication between the professor and the student.	"....actively listening to students if and when issues or concerns arise, and then translate those thoughts to the professor/TAs...Being able to communicate effectively with both the students and the professor..."
Make Connections with Students	The learning assistant builds trust and personal connections with students through friendly, peer-like, and respectful one-on-one or small group interactions.	"Build a connection with students...When someone in the class knows you by name, maybe even a few of your hobbies, your motivation to do well in class sky-rockets."
Influence the Environment	The learning assistant engages all people within classroom environment by welcoming, encouraging, and validating all students, ensuring they feel respected and comfortable.	"...being a good example for students to follow. That includes showing enthusiasm for the course they are teaching and helping the students with their best."
Account for Human Aspects	The learning assistant shows empathy by acknowledging students' backgrounds and acting impartially.	"... by not discriminating against anyone and treating everyone the same... being cautious of words that might come out as offensive to either party."
Influences Student Participation	The learning assistant engages students by encouraging participation, verifying understanding, facilitating discussions, using questions, and monitoring contributions.	"[LAs] have closer interactions with the students than the instructor does, so they can ask questions more fitted to that individual student's style of learning..."

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Prompt 4: Explain how students can actively promote an inclusive and equitable course.



Category	Definition	Learning Assistant Quote
Engages in Student Expectations	The student engages in study groups, collaborates with peers, communicates with instructors, adheres to course requirements, and seeks help or reports issues as needed.	" Students can be engaged in learning and put forth their best effort, making sure to communicate any personal difficulties that interfere with learning."
Contributes to the Environment	The student is courteous and engaging in the classroom, actively contributing to a positive learning environment, and consciously contributes to an overall positive atmosphere.	"....creat(ing) a safe learning environment... by allowing everyone to voice their opinion and having a patient attitude towards that, a better learning environment is created for everyone- allowing all to participate."
Accounts for Human Aspects	The student is free from biases that would exclude themselves or others in the course.	"...Do not discriminate against anyone, and not take make any kind of light jokes that may be offensive to either party of students."
Establishes Relationships	The student builds relationships with their peers by getting to know one another while working with each other.	"...students need to get to know each other and help each other out... Having people you know in class with you really does help lower the anxieties of the students trying to learn..."
Respects the Instructor	The student treats the instructors with respect and values their contribution to the course.	"Be fair in what you expect from the teacher."



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IMPLICATIONS

What Do the LAs Expect of the Instructors?

Create an accessible course framework:

Clear Plans, Ready Resources, and Accommodations

Create a welcoming and respectful environment:

Value Contributions, Be Supportive, & Be Positive.

Engage students with active participation:

Verify Knowledge, Use Discussions, & Adjust Feedback

Make gestures of empathy towards students:

Validate Identities, Consider Health, and Avoid Bias

Build a personal connection with students:

Be Approachable, Be Friendly & Be Inquisitive

Support students individually or in small groups:

Give Feedback, Clarify Concepts, & Adjust Explanations

What do the LAs Expect of the Learning Assistants?

Support students academically:

Interpret Expectations & Facilitate Communication

Engage students within the classroom environment:

Welcome, Encourage, Validate, Respect, & Comfort

Encourage participation:

Verify Input, Promote and Monitor Discussions, & Ask Questions

Build trust and personal connections one-on-one:

Be Friendly & Be Peer-Like

Show empathy towards students:

Acknowledge Backgrounds & Act impartially.



IMPLICATIONS

What Does the Literature Encourage the Instructors to Do?

Kimberly N. White et. al. published these six suggestion in the Journal of Chemical Education in 2020 after reviewing literature that had been published for instructors:

- **Fostering a Sense of Belonging**
- **Validating Students Scientific Identities**
- **Allowing Students to Make Mistakes**
- Being Intrusive
- Cultivating Relationships
- Employing Active Learning and Group Work

Provides Academic Assistance	Account for Human Aspects	Influences Student Participation
Makes Connections with Students	Influence the Environment	Establishes the Course Structure

What Have the Students Said About Inclusivity?

Dasha Walker et. al. published the following inclusivity indicators in 2024 using a mixed methods approach to investigate the student's perspective:

- **Academic**
 - + **Course Structure**
 - + **Environment**
 - + Student-Student Interaction
- **Identity**

Multiple Teaching Strategies	Student-Instructor Interactions	Participation	Student Agency
Student-Student Interactions	Classroom Environment	Course Structure	



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