My teaching experience is in mathematics, computer science and programming. I focus on teaching students new ways of thinking and helping them learn to understand and apply new conceptual tools to solve concrete problems. In my experience, the most effective approaches to teaching have been those that encourage students to discuss ideas as they work together in small groups to solve problems that exemplify how they can apply the skills that I am trying to teach. This strategy is achievable and beneficial in online, in-person, and hybrid formats. Learning most effectively takes place when students are actively engaged in thinking through relevant questions. Fostering discussion and community in the classroom improves student engagement and allows students to encounter a range of different ways of thinking about problems. As a TA I aim to assist student learning within the course framework set by the instructor and ensure that discussion sections fill a distinct role from the primary component of the course.

The two courses that I have taught the most at UCLA are PIC10C, the third course in the C++ sequence, and PIC20A, a course on Java. The primary component of the courses are taught in a lecture style and discussion is optional. Therefore, in addition to answering students' questions about course material, during discussion, I focus on giving students longer example programs demonstrating the concepts being covered in class. I begin by explaining the purpose of the demo, in terms of what we want the program to do, as well as what concepts the demo is designed to cover and where they will show up in the code. Then, together, we go through the process of writing the code in detail. While I type out most of the code, I ask students what they think the code should be before I type it out. I design the demos and make sure they cover concepts that students are likely to struggle with and make the demos as interactive as possible.

While the teaching method I discussed above works well, the method that I have found to be the most effective is to have groups of two to four students work together on worksheets containing problems that illustrate key concepts. I have taught in this format in online, hybrid and in-person contexts. As students discuss problems on the worksheets, I and undergraduate learning assistants go from group to group (or visit breakout rooms) answering questions and listening to their conversations, occasionally redirecting them if necessary. I have been a TA for PIC16A (an introduction to Python and its applications) three times, once in a traditional format and twice in the groupwork format. In the groupwork format, students had a much better grasp of the material and were more comfortable applying their knowledge to solve problems. Specifically, they were much more comfortable experimenting with and working out how to use complex libraries like numpy, pandas, matplotlib and scikitlearn.

In math and programming, students come into classes with a wide variety of backgrounds both in the academic subject matter and personally, that can impact how much they feel like they belong in the course. In turn, this feeling of belonging can influence students' attitudes towards the material and affect their learning. As instructors, we need to convey a growth mindset and maintain the attitude that everyone can learn and improve. We need to emphasize that comfort with material is something that comes with time and experience and that it's normal to find something hard at first. Another important way to increase people's feeling of belonging is to focus on building a community in the classroom. Strategies can include encouraging students to form a group chat for the class or learning students' names. It is also important to establish communication norms that make students feel comfortable asking questions and participating in the classroom. This includes not being dismissive of student questions, as well as encouraging more students to think about or respond to questions by giving students time to think about an answer and waiting for several students to raise their hands rather than calling on the first person.

Students appreciate the interactive and encouraging atmosphere in my classrooms. One student commented, "Discussion sections were very effective and helped me with my homework and increased my ability to collaborate with others while coding. Jason did a great job!"