

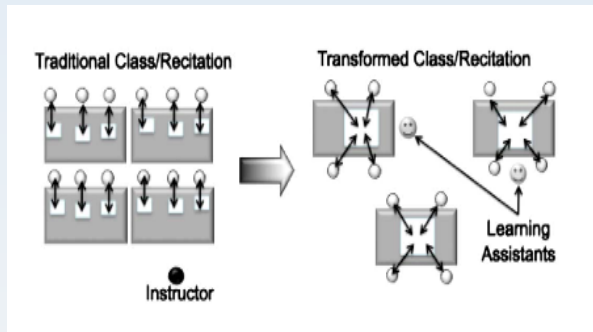
Benefits of Learning Assistants in Physics Recitations

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How Recitation Helps

Recitations help students repeat and review the new material that they have recently learned in lecture in order for them to fully comprehend everything. Furthermore, recitation;

- Helps integrate and understand key physics concepts.
- Develops problem-solving skills.
- Connects math and equations with concepts.
- Develops the ability to think more deeply and visualize the subject matter by applying it to real life situations presented in the worksheets.
- Relates physics to everyday life.



Schools with LAs in Recitation

- The university's Physics Teaching Education Coalition states that "often, the LAs serve as the primary instructor in the recitation." - North Carolina State University
- "LAs have been exposed to the course content much more recently and undergo more pedagogical training than TAs, so their ideas about student difficulties are more accurate." -University of Colorado at Boulder
- "LAs ensure that students are understanding the material the professor has gone over in lecture during that week."-Arizona State University

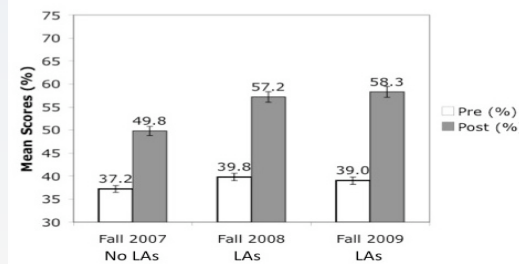
Role of LAs in Recitation

- Attending lecture and answering any questions students may have
- Meeting with the professor and informing him or her of students who might need special attention
- Holding office hours for students to come to them directly with homework or material questions
- Working with students in recitation

Benefits of LAs in Recitation

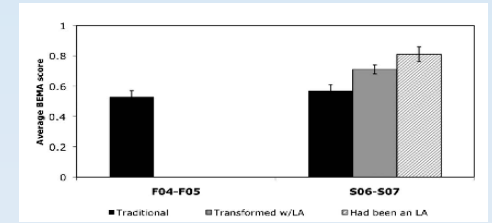
- Provide an additional perspective to students beyond the instructor
- Encourage cooperative learning
- Increase student participation
- Decrease student to teacher ratio
- To provide feedback to the instructor.
- Encourages more students to pursue teaching careers.

Effect of Using Learning Assistants on Student Scores on Conceptual Exam in Transformed General Chemistry Courses



Transformed courses using Learning Assistants result in higher student learning than a transformed course without Learning Assistants, as seen in the figure.

Source: [Pedagogy in Action: Library: Teaching with Learning Assistants.](#)



The figure shows students' results on the BEMA (Brief Electricity and Magnetism Assessment) as separated by those who had not taken an LA-transformed course, those who had, and the LAs themselves.
Source Article: "A Physics Department's Role in Preparing Physics Teachers: The Colorado Learning Assistant Model."

- Including LAs in recitation can also help improve the learning atmosphere. Below is a categorical description of students' open-ended responses regarding collaborative learning

Benefits Focusing on Social and Emotional Aspects

Comments (# of responses)

More relaxed atmosphere makes problem-solving easy (15)
It was fun (12)
Greater responsibility- for myself and the group (4)
Made new friends (3)

Source: Science Education Resource Center at Carleton College. "How to Teach with Learning Assistants."

Improving Recitation

- Organize recitations so students learn the material in lecture before it is covered in recitation
- Gear problem sets toward covered material and test questions
- Shorten problem sets so focus is on material not on lack of time
- Implement LA's into recitations in order to answer more student questions and create a more relaxed environment