



Extreme Learning Assistants:

The Impact of an Authentic Teaching Experience on Undergraduate Physics Majors

Lauren A. Harris, Ian D. Beatty, and William J. Gerace – University of North Carolina at Greensboro

Abstract: UNCG has an innovative LA program, in which upper-class undergraduate physics students teach laboratory sections of the introductory calculus-based physics sequence. These LAs do all prep work for the lab and conduct lab meetings. They meet with the professor before the semester to determine an overall plan for the lab course, and then weekly during the semester for guidance. This gives the LAs a genuine voice in the design of the course. Through interviews with former and current LAs, we found that this experience makes physics majors more inclined to consider a career in teaching, or even in PER. It also improves students' content knowledge and laboratory skills.

THE LA PROGRAM

UNCG's LA program is very different from most programs^{1,2,3} in the degree and nature of the responsibilities it gives to the LAs. LA responsibilities include:

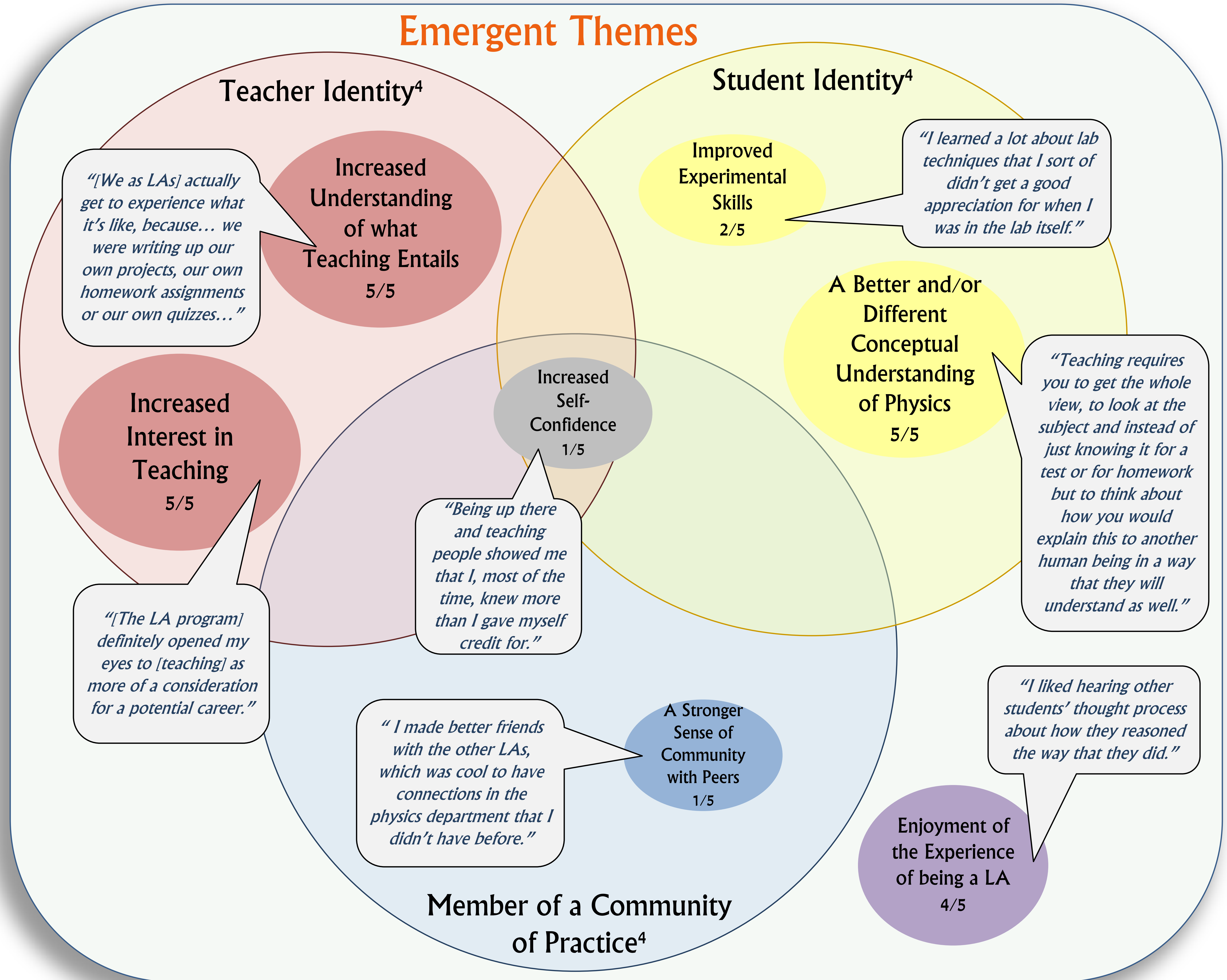
- generating syllabi and lab instructions;
- creating reference materials, quizzes and other documents;
- conducting the lab meetings;
- evaluating student work.

We conducted a preliminary qualitative investigation into the ways that LAs perceive they have been impacted by their participation in the program.

Interview

We conducted a semi-structured interview with five of the ten current and past LAs. The interview protocol contained the following questions:

- 1) General overview, what was your opinion of being an LA?
- 2) How has being an LA affected the way you think about physics?
- 3) How has being an LA affected the way you think about teaching?
- 4) Has this made you want to be a teacher, or at least opened your eyes to the field?



Qualitative Thematic Analysis

We can conclude that the UNCG LA program has many positive impacts on the participants' perceptions of themselves as potential teachers and as physics learners.

References

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