

# Analysis of LA Physics Identity Through the Lens of Communities of Practice

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**Acknowledgments:** This work and the Texas State University Physics Learning Assistant Program are supported in part by NSF grants #0808790 and #1431578, and the Halliburton Foundation

## Motivating Questions:

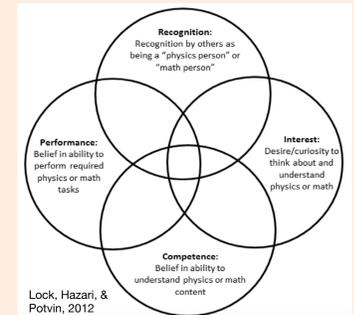
- Why are LA Programs so great?
- How can we explain the transformative nature of the LA Program?
- What experiences have the most impact?
- What is the nature of the impact/transformation?
  - What are the critical structures for supporting those experiences?

## Theory 1: Identity in Practice

### Four characterizations of Identity in Practice

- Identity as negotiated experience**  
We define who we are by the ways we experience our selves through participation as well as by the ways we and others reify our selves.
- Identity as community membership**  
We define who we are by the familiar and the unfamiliar.
- Identity as learning trajectory**  
We define who we are by where we have been and where we are going.
- Identity as nexus of multimembership**  
We define who we are through the work of reconciling forms of membership in multiple communities.

## Theory 2: Physics Identity



Note: Factor analysis has shown that students do not distinguish between competence and performance

- References**
- Wenger (1998). Cambridge: Cambridge University Press.
  - Hazari et al. (2010). J. Res. Sci. Teach. 47 (8), 978-1003.
  - Lock, Hazari, & Potvin (2013). AIP Conf. Proceedings (PERC 2012), 262-265.

## Theory Blending

- Recognition** is a component of **negotiated experience**  
Do you see me as a physics person?
- Competence** is a component of **community membership**  
Do I know how to do things this community values?
- Personal Interest** is a component of **learning trajectory**  
Is this relevant to what I think I want to do?

**Data:** Written data from program applications and programmatic feedback →

**Analysis:** Looked for evidence of the effect of the LA Program on participant identities using the blended theoretical lens

## Community Membership & Competence

Being an LA increases teaching competence and re-shapes LAs' concepts of good teaching:

"I'm finally feeling comfortable in a role where I help them think instead of boiling everything down to 'right' or 'wrong.'"

## Negotiated Experience & Recognition:

LAs can shape students' ways of learning and interacting

"[Students] know I'm not afraid to ask for help if I need it, which helps encourage them to do the same when they need it."

## Additional Questions:

Are LAs re-defining what it means to be competent? (Growth mindset?)

- Is one semester enough for this transformation?

What elements of the LA program, and forms of participation in it, contribute most substantively to identity development?

- What impact does the Help Center have?...What about weekly prep sessions?
- What structures within the LA model support community?

## Community Membership & Competence

Participation in the LA program changes ways of learning and of being a student:

"Probably the biggest thing I've learned from the LA program is how to ask for help. Previously, I would be embarrassed if I didn't know something & now I have no problem going either a supervisor or another LA for help when I need it"

Data collaboratively coded initially according to the blended framework described above, and then in more detail according to emergent sub-themes in the data

**Data:** Video data from interviews with new and experienced LAs; written data from program applications, programmatic feedback, and teaching reflections



**Iterative Analysis:** themes and questions emerging from analysis shape questions posed in interviews and reflections

## Community Membership & Competence

It's okay to be wrong and to ask for help

"I feel like one of the goals of the LA program is to teach students that it's okay to make mistakes - it's even good if you can recognize that you're making mistakes."

"I think [the LA program] helped me be okay with being wrong [...]. Which is a lot less frustrating when I'm doing homework - well, I'm still frustrated when I do homework, but... when I'm helping people in Help Center, and I'm not sure what the answer is, I'm okay with getting another LA and working through it with the student."

## More Questions:

- How do LAs' perceived and enacted identities change over time?
- Do LAs do what they say they do?
- How do LAs' major, gender, race/ethnicity, ... shape program impact?

**Data:** Interviews LAs as they gain experience (longitudinal); video of weekly LA preparation sessions

**Data:** Learning Assistant Experiences Survey (currently open-ended) with demographic & academic background questions

