

Undergraduates benefit from their participation in a student-led astronomy club in ways that can (and should!) inform curricular design.

Club Activities

- public observing nights
- building demonstrations
- student presentations
- outreach events
- guest speakers
- astronomy news

Sense of Community

I find sometimes personally some people in STEM might not be as inviting... And that's something I did not find with the Astronomy Club. Everyone wanted to learn your name, wanted you to come and really they just were excited about space and they're excited if anyone else was excited about space.
-Connor

Enjoyment

We bring some telescopes out to Reimer's Ranch and we all just get together, put some chairs around, bring food and we look through telescopes, stargaze and just spend quality time with each other.
-Olivia

Just being in a space where everybody has the same, almost specific interests is really inspiring. That's probably honestly my favorite part.
-Josh

Professional Skills

Sometimes ... being president isn't all that fun, but, I mean, it was fun. It was just the work that goes into making it what it is, and that's where I learned more about myself ... and that's where that seed of "I wanna educate people about astronomy" came from.
-Travis

Another thing that we did is we realized that we need to fix the telescope, and so I have a fellowship now to motorize the 16-inch upstairs on the fourth story. So I'm fixing the observatory here. That's a pretty big accomplishment for me, I'd say, 'cause that's what I want to be here for.
-Amber

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Design Principles

- Build on strengths and values of diverse students
- Create mechanisms to bridge cultural divides between faculty and students
- Draw on students' practices from informal science learning environments

Institutional Setting

- Texas State is a large and diverse HSI with a high proportion of low-income students
- Our Physics Department has a limited but growing focus on astrophysics

Methods

We interviewed 8 members of the Astronomy Club and attended Club events over the past academic year

Pseudonym	Race/Ethnicity	Major	Role in Club
Travis	Hispanic/Latinx	Physics	Founding member; 1st president; outgoing treasurer
Amber	White/uncertain	Physics	Founding member; outgoing VP; incoming president
Connor	White	Physics	Incoming treasurer
Jimmy	White	Computer science	Founding member
Olivia	Hispanic/Latinx & white	Biology	Secretary
Erin	White	Biology	Outgoing president
Robyn	White	Electrical engineering	Incoming VP
Josh	White	Physics	New member

Pseudonyms and characteristics of students in the study.

How we can use this

- Create flexible ways for students to share their work
- Incorporate class discussions of news or journal articles
- Invite students to design and pursue their own projects
- Incorporate unstructured observing time
- Incentivize social interaction with other students and professional astronomers

What's next?

- Design and teach an upper-division astrophysics course
- Iteratively assess and adjust the course design based on students' experiences
- Continue to study activities of the Astronomy Club, especially in relation to students' perceived benefits

Want more information?



Check out our PERC manuscript!

