Summary of recommendations related to

Pedagogy

The Problem: Bottlenecks in women's participation in STEM careers include the transitions between undergraduate and graduate study and graduate study and subsequent academic positions, where the proportion of women in physics drops with each successive stage. There is broad evidence that instructor-student and mentor-mentee relationships are critical for encouraging retention in science, with the quality and nature of pedagogical practices playing a significant role in efficacy. Incorporating more inclusive practices in formal teaching contexts such as the classroom and informal teaching contexts such as research mentorship can have a substantial impact on participation in the field.

Recommendations:

- A sense of belonging is key to resiliency. Instructors can create opportunities for students to build their peer support network in the classroom through active learning strategies like peer-led learning. Instructors can also model inclusion by highlighting the contributions of underrepresented scientists; pointing students to university and professional society resources, including affinity groups; and promoting an open information network, where scholarship and internship opportunities are shared broadly rather than within informal networks.
- Courses should use clear and transparent rubrics to ensure objectivity in grading. At the same time, creating some flexibility in assignments while remaining aligned with learning objectives can increase accessibility.
- Instructors may wish to collect and act on student feedback during the term rather than relying on anonymous teaching evaluations. As women are graded more harshly (and more personally, with increased comments on their appearance and attitude) in course evaluations even when controlling for identical courses and instruction, it may be useful to engage an external observer, as from a university's center for teaching and learning, to provide insight into classroom dynamics and the effectiveness of pedagogical practices.
- Departments should create more opportunities for pre-professional development, including in early research positions and in training graduate students starting as teaching assistants.
- Championing strong teachers, including faculty and graduate students, and offering awards or other recognition can demonstrate that quality pedagogy is a department (or discipline) priority. This, in turn, can help make teaching and service burdens more equitable, as women are socialized to take on more instruction and public engagement work.

Picture an Astronomer: Best Practices for Retaining Talent in Astrophysics
https://arxiv.org/abs/2512.24465
https://pictureanastronomer.github.io/whitepaper