California Education Learning Lab
Background Information and Academic Research

The following are resources on improving learning outcomes and closing equity and achievement gaps in undergraduate STEM education. This resource list features academic, government and institutional publications as well as links to educational initiatives that align with the goals of the Learning Lab.

Where possible we provide links that connect to open-access versions of publications or to sites featuring accessible versions of publications. An asterisk indicates publications for which an open-access version is unavailable (*).

STEM Participation and Equity Gaps in California and the United States


Understanding and Addressing Equity Gaps


Learning Science and STEM


**Additional Works and Perspectives on Institutional Change**


**Institutional Initiatives**

**California Acceleration Project**

- [Growth-Oriented Grading Practices](#) (June 2018)
- [Summary Affective Practice](#) (June 2018)

Other California Acceleration Project [Publications](#)
California State University, Course Redesign with Technology

University of California, Innovative Learning Technology Initiative


Association of American Universities, Undergraduate STEM Education Initiative


Carl Wieman Science Education Initiative at the University of British Columbia/ Science Education Initiative at the University of Colorado, Boulder

Open Learning Initiative, Carnegie Mellon University