

# The 2018-19 Budget: California Education Learning Lab

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## Summary

**Governor Proposes New Online Education Initiative.** The Governor proposes to provide \$10 million ongoing General Fund for the Office of Planning and Research to launch a new online intersegmental higher education initiative. Specifically, the initiative would fund competitive grants for intersegmental teams of faculty to create new and redesign existing online or hybrid courses in science, technology, engineering, and math (STEM). Teams would be required to include faculty from at least two of the three public higher education segments. Faculty teams that receive a grant under the program would be required to integrate learning science and adaptive learning technologies into the courses they develop. The Governor's stated goal for this initiative is to increase college STEM participation, persistence, and completion rates of historically underrepresented students.

**Recommend Legislature Reject Proposal.** Data consistently show that historically underrepresented students have lower participation, persistence, and completion rates in college STEM courses and programs. Given these findings, we believe the Governor's focus on improving student outcomes in this area is warranted. Based on our review of national research, however, we believe his proposed solution is unlikely to address the root causes of STEM disparities among student groups. Moreover, the program overlaps with other existing state-funded online higher education initiatives and lacks any justification for the proposed funding level. For these reasons, we recommend the Legislature reject the proposal.

**Recommend Tailoring Solutions to Root Issues.** Should the Legislature wish to focus in 2018-19 on improving STEM experiences for certain college students, we suggest it begin by identifying which root issues are most pronounced at each of the higher education segments. The Legislature then could consider alternative solutions (whether they be segment specific, intersegmental, or involving elementary and secondary schools) that are better tailored to addressing those root causes of STEM disparities.

In this report, we first provide background on online education at the California Community Colleges (CCC), California State University (CSU), and University of California (UC). We then describe the Governor's proposal to create a new intersegmental online program, assess that proposal, and make an associated recommendation.

## Background

**State's Public Higher Education Segments Offer Varying Amounts of Online Education.** Though most courses at CCC, CSU, and UC still are taught in-person, online education is becoming an increasingly prevalent instructional method, particularly at CCC

and CSU. In 2016-17, community colleges served a total of 157,413 full-time equivalent (FTE) students via online education, representing 13 percent of all FTE students served by CCC that year. In 2016-17, CSU served 23,700 FTE students (including 22,100 FTE undergraduate students), representing 5.8 percent of students served.

**Segments Have Different Definitions of “Online” Courses.** Comparing CCC and CSU online enrollment is difficult because the segments have different ways of classifying a course as “online.” Specifically, CCC considers a course to be online if over half of instructional content is delivered online. By contrast, CSU defines a course as online only if 100 percent of its content is delivered online, with no in-person class attendance required. CSU defines a “hybrid” course as one in which much instruction occurs online but students are expected to attend class a limited number of times for face-to-face instruction (such as to perform laboratory experiments). Hybrid courses likely are comparable to many CCC online courses. CSU reports that 3.6 percent of its enrollment is in hybrid courses. UC is not able to provide systemwide enrollment figures for online and hybrid courses but likely has a lower percentage of such enrollment than CSU.

**State Funds Segment-Specific Online Initiatives.** Like traditional in-person instruction, campuses from all three segments use their general purpose monies to cover instructional costs for online and hybrid courses. On top of this spending, the state recently has provided ongoing augmentations for specific online initiatives at each of the segments. Beginning in 2013-14, the state has provided the following augmentations:

- **CCC—\$20 Million Ongoing for Online Education Initiative.** CCC’s Online Education Initiative consists of several components, including (1) trainings and other resources to help faculty design high-quality online courses; (2) a common technology platform for faculty to deliver online courses; and (3) the Online Course Exchange, a pilot project that enables students to find, enroll in, and get credit for fully online courses offered by other colleges participating in the exchange.
- **CSU—\$10 Million Ongoing for Faculty Support in Online and Hybrid Courses.** CSU has used its funds to create incentives for faculty to offer

fully online courses in lower-division subjects with high enrollment demand. Participating faculty must demonstrate that their courses have high completion rates and agree to allow students attending other CSU campuses to enroll in them. In addition, CSU provides professional development opportunities to faculty throughout the year (such as through workshops) that focus on redesigning courses and adopting new, evidence-based approaches to teaching online or hybrid courses.

- **UC—\$10 Million Ongoing for Online and Hybrid Course Development and Cross-Campus Enrollment.** UC’s Innovative Learning Technology Initiative, which is housed at the Office of the President, provides grants for faculty to develop online undergraduate courses that UC students at any campus may access. To date, the initiative has developed 250 online and hybrid courses.

## Governor’s Proposal

**Proposes \$10 Million Ongoing General Fund for New Online Program.** The Governor proposes to create a new statewide program known as the California Education Learning Lab. At least for the first few years, the program would focus exclusively on creating new and redesigning existing lower-division online and hybrid courses in science, technology, engineering, and math (STEM) at the three segments. After three years, the program would be permitted to add online and hybrid courses in other disciplines.

**Office of Planning and Research (OPR) to Administer Program.** Under the proposal, OPR, which undertakes various projects on behalf of the Governor, would operate and oversee the program. Specifically, OPR staff would (1) solicit requests for proposals from faculty at the three segments, (2) recruit members of a selection committee to score proposals and recommend awards, (3) monitor progress of award recipients, and (4) evaluate projects upon completion. As an alternative to using OPR, the administration has indicated that it is exploring the possibility of contracting with an external grant administrator (such as a foundation or nonprofit organization) to manage the program.

**Teams of Faculty Eligible to Apply for Grants.**

These teams would be required to include faculty from at least two of the three public higher education segments. The teams could include members from private nonprofit institutions. As a condition of receiving grant funding, all faculty team members would be required to teach the course and evaluate the curriculum they jointly develop.

**Grantees Required to Integrate Learning Science and Adaptive Learning Technologies Into Courses.**

The administration describes learning science as a field of study that seeks to further scientific understanding of learning—that is, how individuals learn, the process of learning in different contexts, and which learning strategies are best for students. Adaptive learning technologies use artificial intelligence to assess and collect data on a learner’s current state of knowledge about a particular subject, provide content and resources appropriate to that learner’s level, and adjust lessons in “real time” based on the learner’s performance.

**OPR Could Use Program Funds for Additional Purposes in Future Years.** Beginning in 2020, OPR would be permitted to (1) provide professional development grants aimed at faculty interested in adopting the courses funded in the initial years of the program and (2) curate a “best of” library of online and hybrid courses that incorporate principles of learning science.

**Proposal Intended to Boost College Participation and Success in STEM for Certain Student Groups.**

The Governor’s stated goals in establishing this proposed program are to (1) increase the proportion of students from historically underrepresented groups (including first-generation, low-income, and certain racial/ethnic student groups) that major in STEM disciplines; (2) increase term-to-term persistence and degree attainment of STEM students in those groups; and (3) close achievement gaps.

**Assessment and Recommendation**

**Governor’s Overall Goals Are Laudable.** National and state data show that students from historically underrepresented groups typically have lower enrollment rates and higher attrition rates in STEM courses and programs than other college students. Given these findings, seeking to improve student participation and outcomes in this area is warranted.

**Many Factors Underlying Disparities in College STEM Outcomes.**

Research identifies a number of factors likely contributing to lower STEM enrollment, persistence, and completion rates among students from historically underrepresented groups. These include: (1) disproportionate attendance at elementary and secondary schools that have less qualified math and science teachers, (2) less access to advanced STEM courses in high school, (3) different parental expectations about studying STEM in college, (4) lack of exposure to role models and mentors with a STEM background, (5) perceptions of an unwelcoming academic culture in science and math departments, and (6) inadequate support services. Research also notes that STEM majors (particularly engineering) often have course requirements beyond the typical 120 unit degree requirement, which can serve as an added burden for students with limited financial means.

**Proposed Solution Unlikely to Address Problem.**

Given these underlying causes, it is unclear how the Governor’s proposed program would achieve its stated goals in a meaningful way. As the vast majority of CCC, CSU, and UC students continue to take courses in a face-to-face environment, it also is unclear how creating new and redesigning existing online and hybrid courses would result in widespread improvement in STEM outcomes.

**Segments Already Have Funding to Develop and Redesign Online Courses.**

For the past five years, the state has provided ongoing targeted funding to each segment to improve and expand their use of online and hybrid courses. Most of this funding has supported course development and redesign for lower-division courses. Given these existing efforts, the need for a new program that also focuses on course development and redesign is unclear.

**Lack of Any Justification for Proposed Funding Level.**

The administration has not provided a rationale as to how it determined the proposed \$10 million annual funding level. The Governor’s proposal does not include key information such as how many grants would be provided per year, the approximate amount of each award, and why the administration believes those amounts would be sufficient to accomplish the program’s objectives. Absent such basic information, the Legislature is unable to evaluate whether the requested funding amount is reasonable.

**Recommend Legislature Reject Governor's Proposal.** Given the Governor's proposal (1) has a solution that does not clearly align with the problem, (2) would overlap with existing state-funded online initiatives, and (3) lacks any justification for the proposed funding level, we recommend the Legislature reject it. Should the Legislature wish to focus on improving STEM experiences for certain groups

of college students, we recommend it first identify which of the root causes of STEM disparities are most pronounced at each of the three segments. The Legislature then could consider alternative solutions (whether they be segment specific, intersegmental, or involving elementary and secondary schools) that are better tailored to addressing those problems.

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This report was prepared by Paul Steenhausen and reviewed by Jennifer Kuhn. The Legislative Analyst's Office (LAO) is a nonpartisan office that provides fiscal and policy information and advice to the Legislature.

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