Innovations in Teacher Recruitment, Preparation and Development Within the California State University, March 2018

Each of the 22 CSU campuses that provide teacher credentials and CalStateTEACH, the CSU online statewide preparation program, have developed innovative programs of teacher recruitment, preparation and development. Educator Preparation and Public School Programs staff reviewed campus websites to identify innovative practices and programs that are:

- Related to emerging signature pedagogy areas (culturally responsive practices, deep clinical experiences, collaboration, and an emphasis on science, technology, engineering and mathematics [STEM]) that emerged from the fall 2016 campus asset mapping process; and

- Highly innovative and distinctive practices that represent new methods or leading edge approaches, pioneering strategies or novel designs. Such innovative practices have been shared and sustained and are recognized as representing best practices and exemplars.

Campus sections have been reviewed by the respective education dean or director to ensure accuracy and comprehensiveness. For additional information, please contact Marquita Grenot-Scheyer, assistant vice chancellor, Educator Preparation and Public School Programs, at mgrenot-scheyer@calstate.edu or (562) 951-4747.
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**Innovative Programs in Teacher Recruitment**

This section of the analysis identifies innovations in teacher recruitment, which describe creative strategies that have shown promising results that serve as models which, in a number of cases, have been adopted by other campuses.

**Recruitment of Diverse Teacher Candidates**

There is a commitment to recruiting diverse teacher candidates on all CSU campuses. Two sets of initiatives that are especially significant are the recruitment of (a) Hispanic and bilingual candidates and (b) males of color.

- **Recruiting Hispanic and Bilingual Teachers:** Each CSU teacher preparation program seeks to enroll and prepare Hispanic and bilingual teachers to meet the needs of California classrooms. Nearly one-third of candidates are Hispanic, distributed across the campuses and CalStateTEACH, the statewide online program.

  San Diego State (SDSU) has a particularly innovative approach, having created a special Department of Dual Language and English Learner Education. It reflects the emphasis given to its Bilingual Credential and Dual Language and English Language Development Certificates.

  Three other campuses were recently awarded federal Title V Developing Hispanic Institution teacher preparation grants: CSU Long Beach (CSULB), Sacramento State, and Sonoma State (SSU). They are implementing creative approaches for recruiting and preparing diverse candidates to serve California’s diverse communities and schools, with special attention to the needs of Hispanic students and English learners.

- **Recruiting Males of Color into Teaching Careers:** CSU Northridge (CSUN) and CSU Fullerton (CSUF) have undertaken innovative programs recruiting teachers of color. CSUN leads a comprehensive initiative supported by the Kellogg Foundation in partnership with CSU Dominguez Hills (CSUDH) and Cal State Los Angeles (CSULA).

  CSUF leads an experimental effort in collaboration with the American Association of Colleges for Teacher Education Network Improvement Community, established for sharing lessons learned among several institutions.

  Both the CSUN and CSUF programs involve targeted outreach to organizations serving communities of color, with particular attention to African
American males because they are in such significant shortage in teaching. The programs include involvement of parents in recruitment efforts, financial aid information and assistance. Outstanding teachers of color are involved in campus events for candidates and their families.

Both programs track results systematically, gauging success with different populations and assessing effective features of these campaigns for ongoing modifications and sharing with other campuses.

**High School Recruitment**

- **Grow Your Own Pathways:** A number of CSU campuses have Grow Your Own pathways, recruiting candidates from the community to return to the community and teach. Grow Your Own programs are based on partnerships between districts and educator preparation programs that proactively recruit teacher education candidates from local communities to join the teaching profession and teach in their communities' schools.

  The CSUDH effort is particularly noteworthy as the program works with high-need districts in the Los Angeles area and has been an important source of diverse new candidates from their communities. It began as a partnership with Harbor Community College and now involves other area community colleges. Many candidates also matriculate from high school directly to the CSUDH teacher pathway, reflecting the College of Education’s high school outreach.

  The program is distinctive in fostering and encouraging candidate interest in elementary and secondary math and science. This approach involves high school recruitment, school district and community college partnerships, and a focus on diversity. District partners often report on the good fit of the candidates with district needs and note the deep commitment and high retention rates of new teachers.

- **High School Teacher Academies:** A few CSU Colleges and Schools of Education work with districts in structured high school teacher academies, and CSU Channel Islands (CI) has one such partnership, the Teaching and Educational Careers Academy (TECA).

  Located at Pacifica High School in the Oxnard Unified School District, the academy introduces teaching as a career by providing high school students the chance to experience working with K-12 students in local schools. Participants in TECA take coursework focused on the foundations of education, which can then be used to meet specific requirements in the teacher preparation program at CSUCI. A lead teacher at Pacifica High School coordinates TECA, with the support of CI School of Education faculty who provide advice and guidance around assignments and field experiences.

- **Educators Rising:** CSU San Marcos (CSUSM) participates with regional high schools in an innovative early pathway to teaching through Educators Rising. The program is affiliated with CSUSM’s Regional Educator Pathways Advisory Board and California’s branch of the
national program, which derived from the earlier Future Teachers of America.

The CSUSM School of Education supports high school future teacher clubs by having its teacher candidates serve as advisors to the clubs. The high school students attend conferences and other events where they meet experienced teachers and campus faculty, are introduced to the rewards of a teaching career and learn engaging practices of effective teachers.

CSUSM has implemented a Leadership Summer Residential Teacher Academy with Encuentros Leadership, a community-based program for high school Latinos. The campus also leads the Be a Teacher Pathway Community, which includes regional community colleges and undergraduates, providing mentoring, personal email contacts and information sessions about teaching pathways.

Community College Recruitment

All CSU campuses have robust partnerships in teacher preparation with area community colleges. The following are a few examples of innovative strategies with promising results.

- **Achieving Scale in Associate Degree for Transfer Pathways:** Each CSU campus has an Associate Degree for Transfer (ADT) in teacher education, and the CSUN program has had particularly large participation rates. CSUN has close partnerships with several area community colleges in its ADT.

  CSUN outreach and recruitment involves an early and continuous advising partnership between the Michael D. Eisner College of Education teacher credential program, the CSUN Liberal Studies Department and the community colleges. The program’s effectiveness is evident in the large percentage of students (70 percent) who transfer into the Liberal Studies program through an ADT. The majority of these students pursue a teaching credential.

- **CSUF Teacher Pathway Partnerships:** The CSUF College of Education partners with Fullerton College, Saddleback Community College and Santa Ana College in a model California Teacher Pathway. All campuses have community college partnerships with pathways into teaching, and this one has been especially innovative.

  The CSUF partnership features (a) a cohort model that involves the three community colleges in the region; (b) summer institutes for course credit at CSUF; (c) a partnership with the Jet Propulsion Laboratory (JPL), a national research facility that carries out robotic space and earth science missions that introduce students to current advances
in STEM; and (d) paid employment for students as aides in partner after-school programs. Each community college has a partnership in the program with one or more high schools.

Cal State LA has a similar program supported by a “first in the world” grant from the U.S. Department of Education through which it is increasing the number of well-prepared teachers in STEM through a pathway program in collaboration with regional community colleges.

**Undergraduate Recruitment**

- **Teaching Fellows:** California State University, Fresno (Fresno State), in partnership with the [California Teaching Fellows Foundation](https://californiateachingfellows.org/), engages 750 undergraduates annually in a pre-teaching program, including a cohort support structure, counseling and advising, and paid employment. The students serve as paid aides and tutors in a summer campus-based university for children and youth from the Fresno community. In it, they work with P-12 students from diverse cultural, language and economic backgrounds.

  The program is a partnership with the Teaching Fellows Foundation and the Fresno County Office of Education after-school programs. The Teaching Fellows are a strong undergraduate community, and the [Kremen School of Education](https://www.csufresno.edu/kremen/) provides activities that encourage and assist them in preparing for a teaching career.

- **Mathematics Teacher Education Partnership:** The CSU Mathematics Teacher Education Partnership (CSU MTEP) is an initiative led by math and math education faculty aimed at recruiting and preparing outstanding math teachers to advance the California Common Core State Standards: Mathematics (CA CCSSM).
All CSU campuses participate, and four—CSU Chico, CSU East Bay (CSUEB), Fresno State, and CSUF—have had innovative math teacher recruitment. A partnership with the Association for Public Land Grant Universities (APLU) national MTEP, the CSU campus initiatives draw upon nationally developed resources and use them locally. These resources focus on: (a) social media; (b) personalized messaging; (c) compelling videos; (d) engaging posters, flyers, and newsletters; (e) strategic planning; and (f) tracking and evaluation.

The approaches are being shared across campuses. The efforts connect with the academic preparation goals of Graduation Initiative 2025 by addressing shortages and preparation of qualified math teachers.

- **EduCorps**: Educorps is a comprehensive teacher recruitment effort to identify and encourage promising undergraduate students to consider a career in teaching. Five founding campuses (CSUDH, Fresno State, CSUF, CSULB and Sacramento State) collaborated in developing this program with the emeritus chair of Teacher Education at Sacramento State. It is being scaled up across campuses, with distinct implementation features that relate to local context.

As an example, the Fresno State design is aligned with a Teaching Fellows program. The CSUEB and CSUF approaches are being coordinated closely with math teacher recruitment efforts. Common elements include (a) faculty nomination of undergraduates who demonstrate promise as teachers; (b) a focus on diversity; (c) hosting of Celebrations of Teaching in which undergraduates meet with faculty, exemplary local teachers and campus leaders; (d) teacher clubs; (e) financial aid advising; and (g) advising, support and a broad range of teaching-related activities for students as they continue on a trajectory to a teaching career.

**Career Changer Recruitment**

- **EnCorps**: A number of CSU campuses partner with EnCorps, a nonprofit organization that recruits STEM professionals into teaching. CSUDH, Cal State LA, Sacramento State, SDSU, and San José State (SJSU) have collaborated with EnCorps in recruiting and serving STEM professionals interested in teaching careers. The campuses assist in the transition of the professionals into STEM teaching careers and a credential program.

  Cal State LA has hosted professional development events aimed at introducing STEM professionals to the rewards of STEM teaching and keys to teaching success. CSUDH has collaborated with EnCorps in initiatives to recruit military veterans for teaching.

**Financial Aid and Scholarships**

Each CSU College or School of Education seeks to ensure that teacher candidates are aware of all available sources of financial aid and scholarships. Distinctive to the CSU is the heavy emphasis on multiple sources of financial aid, including loan cancellation.

Recognizing the distinctively intense efforts made to inform candidates about financial aid, the state legislature has made an annual appropriation of $200,000 to the
CSU for its campus education and financial aid offices.

- **Stanislaus State**: Stanislaus State has been particularly innovative. It offers comprehensive recruitment and financial aid advisement aimed at future teachers on the [College of Education’s website](#).

  Additionally, the College hosts frequent events for undergraduates and credential candidates to advise and assist them in acquiring financial aid. It gives special attention to the federal Teacher Education Assistance for College and Higher Education grant—providing $4,000 annually for up to four years—because of the number of eligible candidates.

  These efforts are part of Stanislaus State’s multi-pronged approach to recruitment and financial aid advising, which includes workshops and information sessions, one-on-one advising and Teacher Outreach Ambassadors. These future university teachers attend high school, community college, university, community events and career fairs to promote opportunities in teaching and inform student groups about available financial aid.

  The campus also has an active [Student California Teachers Association](#) chapter that hosts informational events addressing teaching careers and providing financial aid advisement.

- **National Science Foundation Robert Noyce Scholarship Program**: National Science Foundation (NSF) Robert Noyce scholarships have been an important source of financial aid for math and science teacher candidates, providing grants of $10,000 annually beginning in the junior year. All CSU campuses are active in seeking Noyce scholarship
support from the NSF, and each has had a Noyce program.

One example is Cal Poly San Luis Obispo’s program, which is coordinated with its STEM Teacher and Researcher (STAR) leadership. This is a partnership with the National Aeronautics and Space Administration (NASA) and other federal research facilities in California. The program gives STEM majors with a potential interest in teaching an opportunity for a laboratory experience in a cutting-edge lab. It enables them to bring recent advances in science and engineering to their teaching and to see how, as a teacher, they can continue to be a member of the scientific community.

STEM majors on all CSU campuses have participated in the program led by Cal Poly San Luis Obispo. Data from the program demonstrate high retention rates in teaching pathways and beginning teaching, and NSF is supporting expansion and additional research.

Test Preparation

Many CSU campuses provide preparation for the tests required for entering a teacher credential program. Four campuses have been especially innovative.

- **California Subject Exams for Teachers Preparation:** Fresno State has offered online test preparation for each of the California Subject Exams for Teachers (CSET) required for math and science candidates. It has developed online courses for candidates that equip them for success on the exams. It offers the program to its own students and to students across the CSU and has had large participation in the courses.

Other campuses—including CSULB, CSUN, CSU San Bernardino (CSUSB), and Stanislaus State—offer comprehensive CSET test preparation, with approaches that include attention to content knowledge, test preparation strategies and utilization of high-quality, low-cost and free materials for candidates.

Stanislaus State provides support for candidates’ test registration fees and provides preparation support, including workshops, study guides and tutoring assistance.

**System Initiative Supporting Success of Campus Recruitment**

Campus recruitment efforts have additional support through a CSU partnership with the new statewide California Center for Teaching Careers.

- **Partnership with California Center for Teaching Careers:** The innovative efforts described in this report must be connected with California’s teacher recruitment systems to maximize effectiveness. To achieve this for all campuses, the Chancellor’s Office Department of Educator Preparation and Public School Programs has entered into a pioneering partnership with the California Center for Teaching Careers led by the Tulare County Office of Education, funded by the legislature in 2016.

This partnership supports teacher outreach and recruitment through: (a) collaboration in public service announcements promoting teaching careers; (b) broad distribution through the Center’s online portal of information
about credential programs; and (c) collaboration with districts through EdJoin, a statewide job search resource that enables districts to learn about campus programs and candidates to learn about and apply for teaching positions.

**Areas of Innovation in Teacher Preparation**

CSU teacher preparation is characterized systemwide by its goal of preparing excellent and caring teachers equipped to serve all students well.

The following describes innovations in five key areas of CSU teacher preparation: (a) deep clinical partnerships with school districts; (b) collaborative strategies with schools at which candidates are prepared; (c) culturally responsive practices that focus on advancing just and equitable schools for all students; (d) preparation in STEM; and (d) proficiency in deploying current technologies in education.

**Deep Clinical Partnerships with School Districts**

Deep clinical partnerships with school districts are a central feature of CSU teacher preparation on every campus and in CalStateTEACH. Clinical preparation refers to developmentally appropriate field-based experiences that enable candidates to bridge theory and practice and develop and hone teaching skills.

- **Residency Programs:** Candidates are prepared with districts that have commitments to hire them. Preparation is conducted at the school site, and mentor teachers play a prominent role in guiding and coaching candidates.

Building on the medical residency model, the programs provide residents with a year-long, in-school “residency” during which they practice and hone their skills and knowledge alongside their mentor. CSU Bakersfield (CSUB), CSU Chico, CSUDH, Fresno State, Cal State LA, CSU Monterey Bay (CSUMB) and Cal Poly San Luis Obispo each have residency programs.

CSUB's teacher residency program is unique in that it includes both an urban and a rural residency. It is also distinctive in its close collaboration with district human resources staff, serving as a central component in the district’s recruitment. Its residency with Kern Unified School District addresses district teacher shortage challenges and replaces other costly efforts such as out-of-state recruitment.

CSULB has an urban residency, UTEACH (Urban Teacher Academy), which has been recognized as a national model in the U.S. Department of Education’s Equity and Excellence Commission Report.

- **Partnership Schools:** Candidates are placed in partner schools for student teaching and/or paid internships. Innovative models are being developed and shared through the New Generation of Educators Initiative, which supports model partnership school collaborations on 11 CSU campuses and is funded by the S. D. Bechtel, Jr. Foundation.

An example is the CSU Fullerton (CSUF) partnership with Anaheim Union High
School District, which is being expanded to Orange and Placentia-Yorba Linda Unified School Districts. Candidates receive much of their preparation at partner schools, where they have placements that align with the schools’ calendars and take teacher preparation coursework.

In the novel CSUF approach, the role of supervisor becomes a clinical coaching role. The coach provides rich feedback to the candidate, using a calibrated rubric addressing content and pedagogy, which is also used by university course instructors and by school site mentors. Clinical coaches work with candidates, videotaping their teaching, and together they analyze their instruction and reflect on ways candidates can improve their practice.

**Lab Schools at District Sites:** One of the most novel approaches is implemented by CSUDH, in partnership with Gage Middle School in the Los Angeles Unified School District. The Gage lab school is a campus teacher preparation partnership that features a Saturday lab school, which includes a strong family-involvement component. It also includes a special focus on preparing middle grade teachers in math and science, introducing them to a range of hands-on learning experiences reflecting the Next Generation Science Standards’ (NGSS) emphasis on students’ science engagement.

The school is also a partner in the highly innovative mobile Digital Fabrication Labs CSUDH is developing for the Los Angeles community. The labs include a full range of STEM problems and challenges for students to solve; include laser cutters, computers, 3-D printers and additional equipment for students to imagine and create innovative products; and are staffed by CSUDH teacher candidates who develop STEM teaching expertise.

**Innovative Dual Credential/Master’s Programs:** CSUF has been a leader in implementing an innovative two-year combined credential and master’s program. Its program focuses on preparing elementary teachers to reach, teach and impact the diverse needs of today’s students using culturally relevant pedagogy. It places candidates in exemplary high-need schools, and its goal is to prepare elementary teachers who can integrate the use of high-impact instructional practices and technology throughout their instruction. It is a partnership between the College of Education, Department of Elementary and Bilingual Education, university Instructional Technology and partner schools.

Ten other campuses are implementing innovative credential/master’s programs in elementary education, special
education or secondary math and science. These programs each feature deep district partnerships and are supported by the Federal Teacher Quality Program or the NSF Noyce Fellowship program.

- **Integrated Teacher Education Programs:** CSU campuses are developing innovative four-year preparation programs in which credential preparation is integrated with a bachelor’s degree in a content area.

A total of 26 new programs resulted from grant support in the 2016 state budget. These programs are referred to as integrated teacher education because content and pedagogy are woven together throughout. For example, future teachers in science may learn labs they can implement in their own classrooms as they take the lab components of science courses.

The programs are unique in that each is a four-year program that includes a basic elementary, secondary or special education credential and additional preparation in a high-shortage field—bilingual education, math or science. Nine programs provide preparation in bilingual education, ten in special education and seven in math or science. They are also distinctive in having additional units (135 rather than a 120-unit bachelor’s degree) and typically include summer study to ensure sufficient time for candidates to develop content and pedagogical knowledge and engage in student teaching.

- **Co-teaching at Partner Schools:** CSUMB led the establishment of co-teaching, an innovative approach used in CSU teacher preparation. Its College of Education implements co-teaching as a feature across its programs and has served as an innovator and model for other campuses.

Co-teaching is done in close collaboration with school sites, mentor teachers and university practicum supervisors. In this model, the candidate shares roles with the mentor teacher using a variety of proven techniques from the first day of instruction for the school district and continuing for the duration of the district’s school year. The pair observe one another, plan lessons together, share instructional roles, organize the classroom into varying learning groups and provide individualized instruction. Together they assess the progress of individual students and the classroom.

Mentor teachers play primary roles in preparation while having added classroom help from the credential candidate. Districts report valuing the “extra pair of hands,” and research on co-teaching has shown it to be associated with increased student learning.
Inclusive Teacher Preparation: Partner schools play a central role in ensuring inclusive teacher preparation practices. Campus leaders have included faculty at Fresno State, CSULB, Cal State LA and San Francisco State (SFSU). They are collaborating in a project aimed at implementing and sharing approaches such as Multi-Tiered Systems of Support (MTSS) and Universal Design for Learning (UDL). The innovation here is ensuring that all candidates, not only special education teacher candidates, are equipped to meet the needs of all students.

MTSS fosters effective practices for providing instruction and interventions matched to students’ needs, on monitoring progress frequently to make decisions about changes in instructional goals and on providing services as soon as the student demonstrates a need.

UDL focuses on giving all students equal opportunities to succeed no matter how they learn. It presents content in multiple ways, differentiates approaches to student assessment and ensures all students have opportunities that foster their interest and motivation. These are central areas of focus in the CSULB Urban Dual Credential program, which prepares candidates in a blended elementary and special education credential.

Project-Based Learning: Project-Based Learning (PBL) is an innovative approach for classroom instruction in which students gain knowledge and skills by investigating authentic, engaging questions, problems or challenges. It is used on a number of campuses in their collaborations with school sites where candidates are prepared—and Cal Poly San Luis Obispo, Cal Poly Pomona (CPP) and San Diego State (SDSU) have been notable innovators.

Cal Poly San Luis Obispo has been a leader in using Engineering is Elementary, a PBL approach that introduces engineering into the elementary curriculum and has demonstrated positive learning outcomes. Cal Poly San Luis Obispo prepares all of its elementary candidates for the program (developed by the Museum of Science, Boston) and works with partner schools where candidates implement it. The campus has a unique partnership with New Tech High, a PBL school that has enabled the campus to make the approach central in preparation for secondary candidates.

CPP and SDSU have been innovators in PBL through a collaboration with the national Project Lead the Way (PLTW). PLTW is a nonprofit organization that promotes engineering, technology and biomedical teaching in middle and high
schools. As part of the collaboration with PLTW, CPP has introduced the program into their own secondary partnership schools and prepared other CSU campuses to use it.

**Advancing Culturally Responsive Practices and Equity**

Culturally responsive practices refer to addressing the needs of diverse students, families and schools, ensuring just and equitable educational practices, and advancing equity and excellence for all learners. Such practices recognize the value of building on students’ culture and language throughout their educational experience and collaborating with families.

- **Bilingual and English Language Development Authorizations and Certification:** All CSU credential programs prepare candidates in Cross-Cultural Language and Academic Development, incorporating this within their basic credentials. A number of campuses—including CSUDH, Cal State LA and SDSU—also offer bilingual teaching authorizations and certificates. In addition, SDSU and Cal State LA offer English Language Development (ELD) certificates.

  Credential candidates may earn the ELD certificate in addition to their credential, preparing them to work with English learners and their families. Nine campuses received grants to develop new elementary bilingual credential authorizations—the central goal of their new four-year integrated bachelor’s degree/credential programs.

- **Broad-Based Exposure to Diversity:** SDSU is distinctive in the wide spectrum of its programs addressing student diversity. The Department of Teacher Education coordinates with SDSU’s National Center on Urban School Transformation, resulting in awareness of central issues of diversity and equity among faculty who prepare future teachers and an understanding of urban schools and effective approaches for supporting students and parents in these schools.

  In addition, the campus offers study abroad for teacher credential candidates, enabling them to learn about cultures and languages of diverse students. Some students travel over the border and work in nearby Mexican communities, equipping them to work with recent immigrants and introducing them to these students’ educational and cultural experiences.

- **Addressing Cultural and Language Diversity Early in Preparation:** Credential programs across the CSU include designs for addressing cultural and language diversity early in preparation.
Three campuses—CSULB, Sacramento State and SSU—are developing innovative programs through recently awarded U. S. Department of Education Developing Hispanic Institutions grants.

Another innovative approach is found in a unique undergraduate pathway into teaching at CPP. The campus undergraduate interdisciplinary Gender Ethnicity and Multicultural Studies (GEMS) major prepares students for teaching careers by addressing diversity across a broad range of topics. Students may minor in African American Studies, Chicano/Latino Studies, Asian American Studies, Native American Studies, Women’s Studies or Multicultural Leadership. Many students enter the GEMS program with bilingual proficiency, which is further cultivated through field-based experiences serving English learners.

- **Collective Impact Initiatives:** CSUMB and CSUSB are each working with a broad range of educational and social service agencies in collective impact initiatives. This innovative approach seeks to bring together key organizations in the community to solve entrenched and complex educational and social problems. Both campuses work closely with school districts, county offices of education, city government and nonprofit organizations to enhance the educational success of students.

  Credential candidates are prepared in an ethos that introduces them to the critical roles other local organizations can play in addressing students’ needs. Campus leadership in each case is supportive of teacher preparation, recognizing the central role these programs play in collective impact initiatives.

A related approach to collective impact is found in CSUEB’s Hayward Promise Neighborhood program. It provides a cradle-to-career pipeline that goes beyond traditional K-12 education with articulation and connections to early childhood programs and preschool, and two-year and four-year colleges and universities.

Each of these collective impact initiatives emphasize the critical role a multi-disciplinary team of educators and other agencies play in addressing students’ needs and enhancing student success.

- **CSU San Bernardino:** CSUSB has introduced two innovative approaches that equip teacher candidates to advance the success of all learners. It has integrated the highly successful K-12 program, Advancement via Individual Determination (AVID), into its teacher preparation. The approach prepares teacher candidates in culturally relevant teaching strategies, critical reading methodologies, inquiry and Socratic questioning. The focus is on equipping teacher candidates to prepare their students to be college ready. It is implemented along with another significant approach, the Positive Behavior Intervention and Supports (PBIS) Strategy, which advances social, emotional and academic outcomes for all students, including students from underrepresented groups and those with disabilities.

- **Addressing the Needs of K-12 Migrant Students:** Ten CSU campuses
participate in the California Mini-Corps program. Fresno State has a model program that has been recognized as a national Bright Spot in Hispanic Education.

The Mini-Corps program, reflecting the Peace Corps model, features bilingual tutors fluent in a range of languages, including Spanish, Hmong and Punjabi. The tutors work with migrant students and their families while also being prepared for a teacher credential program. Tutors are supervised and mentored by bilingual-bicultural experienced teachers. The program provides tutoring and other academic services to migrant students during the school year and summer, and includes a summer outdoor education program.

- **Supporting Success of Transitional Kindergarten Students:** Beginning in 2017, all California students are able to enter school a year earlier than traditional kindergarten. Serving four-year-olds, the new transitional kindergarten (TK) programs serve large numbers of students who are English learners. CSUF and CPP have led innovative TK programs, each giving attention to preparing candidates to work with English learners.

CSUF’s program, supported by the Packard Foundation, developed teacher preparation resources for all campuses. CSUF developed TK Modules that address child development, language development, early math and science education, and supporting students with special needs. CSUF has shared them across the CSU through coordination with Liberal Studies and credential programs.

The CPP initiative includes a significant focus on undergraduate preparation for future teachers. Its Early Childhood Studies major is a pathway, preparing teachers to work with children from birth through third grade and in transitional kindergarten programs.

- **Advancing California’s Linked Learning High School Reform:** CSU campuses have led the state in preparing new teachers for California’s Linked Learning high school reform. Providing just and equitable high school opportunities are a central goal in Linked Learning. Academic learning is connected with careers through industry-focused career pathways. Industry themes are woven into lessons taught by teachers who collaborate across subject areas with input from working professionals, and reinforced by work-based learning with employers. This connects learning with the world of work and helps students answer the question, “Why is this learning important?”

Campuses that have led the CSU Linked Learning initiative include CSUEB, Fresno State, CSULB, Cal State LA, Sacramento State, CSUSB and SDSU. Teacher candidates develop lesson plans that integrate content standards and career technical education standards. They are prepared at school sites that have Linked Learning career pathways—some of which are “wall-to-wall,”—with every student participating in a pathway preparing them for careers in such industries as agriculture, business, health care, STEM and teaching. Candidates develop skills to support college and career preparation.
for all students and to equip students for post-secondary success.

**Preparation in Science, Technology, Engineering, and Mathematics (STEM)**

- **Makerspaces Aligned with the Next Generation Science Standards**: SSU has been a national leader in introducing Makerspaces to its credential candidates, current teachers, community members and additional CSU campuses. Other campuses that now provide opportunities for their candidates to experience Makerspaces include CSUB, Fresno State, Sacramento State, SDSU and Cal Poly San Luis Obispo.

Makerspaces are creative “do it yourself” spaces where people gather to create, invent and learn. They typically have electronics, craft and hardware supplies, laser cutters and computers. They may be located in or near libraries, including one at SSU and another under development at Sacramento State.

In teacher preparation, Makerspaces prepare candidates to engage students in the excitement of exploring, creating and innovating and to put in action the practice standards of the NGSS, which emphasize actual engagement in scientific and engineering practices, including using math and computational thinking.

SSU faculty have conducted research showing positive impact of Makerspaces on elementary student learning in math, and CSUB research has shown positive outcomes on middle grade students’ STEM attitudes.

- **Enhanced Undergraduate STEM Experiences for Teacher Candidates**: Through the CSU Mathematics and Science Teacher Initiative (MSTI), a number of innovations have been introduced to enhance preparation of future teachers in STEM, beginning at the undergraduate level. This includes campus MSTI sponsoring of National Council of Teachers of Mathematics (NCTM) and California Science Teachers Association (CSTA) memberships for teacher candidates, connecting them early with leading professional associations.

SFSU has created a STEM House to develop a community of students interested in STEM teaching and provide them with field experiences in schools and community agencies working with children in STEM.

CSUF has created a minor in math education for future elementary candidates, and other campuses have developed Liberal Studies concentrations in math, science and STEM, expanding beyond the more traditional preparation for secondary candidates.

Recognizing the particular need among elementary candidates to develop
knowledge and confidence in teaching the physical sciences, SDSU has led in the creation of Next Generation Science Standards Physics and Everyday Thinking. Its work has also been supported by NSF and Chevron and has been shared with other campuses. Research has shown that it enhances the attitudes and effectiveness of elementary candidates in teaching the physical sciences.

- **Federal Partnerships Enhancing Preparation of STEM Credential Candidates**: CSU campuses are distinctive in innovations that have been introduced in preparing credential candidates in partnerships with federal labs. Two notable partnerships are the STEM Teacher and Researcher (STAR) program and Spaceward Bound.

  STAR has provided more than 300 candidates with paid summer research experiences in labs at NASA Ames, Dryden, JPL, the Lawrence Livermore National Laboratory, the Stanford Linear Accelerator Center and other federal facilities.

  An additional CSU/NASA Ames partnership is Spaceward Bound, which provides a weeklong research experience at the CSUF Desert Studies Center in the Mojave Desert. Through this partnership, nearly 100 candidates have studied frontiers in microbiology with NASA scientists. CPP leads the program and includes candidates from Cal Poly San Luis Obispo and SFSU.

  An additional partnership with NASA Ames is its summer Pre-Service Teacher Institute for middle school candidates. Fresno State leads this partnership, which provides a dynamic two-week residential experience for middle grade teacher candidates at the NASA Ames federal research laboratory.

- **Partnerships with Informal Science Institutions**: CSU campuses have engaged in innovative partnerships with informal science institutions (ISIs) to strengthen preparation of their candidates and provide professional development for ISI educators. CSU Chico works with its Gateway Science Museum and Humboldt State with its Natural History Museum. A partnership involving several campuses is the CSU-Boeing ISI Collaborative. It has included CI, CSULB and SDSU in a partnership with 30 ISIs across Southern California. Faculty worked with ISI leaders from science museums, aquariums, marine facilities and botanical reserves. Through this partnership, campuses have introduced candidates to regional ISIs and their resources.

  Through MSTI, campuses have continued to provide opportunities for math and science candidates to have field placements at ISIs. An example is at CSUF, where candidates have a paid summer internship at the Tucker Wildlife Reserve. Cal State LA, CSULB and CSUN have had partnerships that include internships with the Discovery Cube in Los Angeles. SDSU has a partnership with the Fleet Science Center in San Diego.
Partnerships with After-School Programs in STEM: Reflecting a recognition that the majority of high-need K-8 schools in California receive state support for after-school programs, campuses have established partnerships with these programs. Credential candidates have opportunities for field experiences and paid employment, and they develop math and science teaching expertise by leading hands-on activities for children in STEM. They also develop an understanding of the learning needs of diverse students, including English learners.

Cal Poly San Luis Obispo has created a Mentors in Out of School (MOST) program that includes university course credit. CSUF provides placements at Anaheim Achieves, which have included paid internships for candidates. CSUF also has partnerships with after-school programs at low-income schools, which include family STEM nights for families to explore STEM and learn with their children. Cal State LA has had partnerships with Los Angeles Unified School District’s Beyond the Bell program.

The W.M. Keck Foundation, Packard Foundation and MSTI have provided support for development of these programs and for sharing the practices they have developed with other campuses.

Innovations with Educational Technology, including Online Courses: Teacher education faculty on a number of campuses have created online courses that are innovative in their content, addressing current developments in STEM education.

CSUF faculty members created online methods courses that prepare middle school candidates in the pedagogical methods that are central to the CA CCSSM and the NGSS. The courses are available to CSU credential candidates across campuses and to current teachers. Faculty have also developed course modules for use by credential faculty who are preparing middle and high school math teachers, which address the significant challenges students experience in algebraic understanding. This work was supported by Boeing and will be shared across the system with the Math Teacher Education Partnership.

CalStateTEACH is an award-winning systemwide program with all of its coursework online, combined with school site practice-based internships or student teaching.

Model Approaches Deploying Educational Technologies: Google selected the CSU as its partner in a one-week residential Google Faculty Institute that involved more than 20 faculty who prepare candidates in STEM. A CSULB
faculty member continued the work with Google and created Transforming Teaching and Learning through Technology (T2L2T), an online course serving recent credential graduates and other current teachers. It advances technology applications in math and science, including engineering and robotics.

An additional innovation in educational technology is the work of CalStateTEACH in providing elementary candidates with experience in coding so they can work with children in introducing technology early. Cal State LA is a leader in developing approaches preparing candidates to teach coding and computer science and introducing them to robotics.

CSUN has also been a leader, creating resources and tools for Computer Supported Collaborative Learning. These are approaches CSU faculty, classroom teachers and credential candidates can use for frequent online communication and collaboration. CSUN has also created virtual supports for teacher preparation using an avatar-based system. Real-time simulations provide teacher candidates with the opportunity to practice teaching, interacting with parents and participating in Individualized Educational Planning meetings for students with special needs.

Innovative Programs in Teacher Development

Several CSU campuses continue working with credential graduates in beginning teacher development. Others offer professional growth opportunities to veteran teachers. Most have partnerships with schools and districts in which they provide professional development. Often these programs address areas that are also incorporated into initial teacher preparation. Campus disciplinary departments frequently play central roles in these programs. These programs all represent promising strategies for providing opportunities for growth and leadership among teachers and fostering teacher retention, a high priority for addressing teacher shortages.

Teacher Development for Credential Program Graduates

- Teacher Quality Partnership Grants: Programs are provided for beginning teachers by seven CSU campuses selected for federal Teacher Quality Partnership grants. The campuses are CSUB, CSU Chico, CSUDH, Fresno State, Cal State LA, CSUMB, and Cal Poly San Luis Obispo. The beginning teacher experiences are characterized by a close...
connection with initial teacher preparation, representing a continuum of development from initial to maturing teaching expertise.

The Los Angeles Urban Teacher Residency (LAUTR) exemplifies these programs, allowing candidates to earn a credential and master’s degree in a residency program in which they learn on the job in high-need urban schools.

The CSU Chico Residency in Secondary Education (RISE) is another model example of these programs, providing a year-long teacher residency in which candidates work with outstanding mentor teachers in rural schools and earn a master’s degree and credential.

- **Trellis Mentor Fellows**: SFSU provides professional development in STEM teaching and learning for its beginning teachers through joint efforts with Trellis Education. Beginning teachers may become Trellis Mentor Fellows. The beginning teachers develop advanced STEM instructional skills by practicing and reflecting on teaching practices with expert mentors and attending professional development events.

The program aims to provide the beginning teachers with the knowledge, skills and high expectations to ensure all students—in particular, students of color, immigrant students, students living in poverty, and female students—have access to courses, majors and careers in STEM. SSU graduates also participate in the program, aimed at developing and retaining new teachers.

- **Induction Programs**: CSUF has implemented a model Beginning Teacher and Support Induction program with districts in its region. In fall 2017, it began an innovative fully online induction program. Such programs are designed to strengthen new teachers’ professional practice and contribute to their future retention in the profession.

The program provides a robust mentoring system that includes analyses of their teaching practice to help candidates develop career-long professional skills. It is aligned with the National Board of Professional Teacher Standards (NBPTS) certification opportunities and International Society of Technology in Education (ISTE) Standards for Teachers. It includes nine units of graduate credit for four induction courses delivered over two years. The program also provides individualized learning experiences based on candidates’ unique needs. It may align with and assist candidates in obtaining a master’s degree.

- **Distinguished Teachers in Residence Programs**: A number of campuses have Teachers in Residence programs for outstanding teachers in the school districts the campuses work with in teacher preparation.

The Distinguished Teacher in Residence program at CSUSM is a model example. It enables districts to identify teachers to serve as faculty at CSUSM, teaching courses in their areas of expertise. The program provides professional development for the veteran teachers, enabling them to return to their respective districts with deep
knowledge of their discipline and teacher preparation. It also brings to teacher preparation expertise from local schools that closely connects teacher preparation with the practices of the schools.

- **Professional Development in History-Social Science:** The [CSU Dominguez Hills History Project](#) provides professional development programs for teachers in the South Los Angeles region. The Project provides research-based professional development programs designed to improve student understanding of history-social science and literacy, aligned with the California Common Core State Standards.

Fresno State and CSULB also have History Projects fostering historical thinking and sharing of effective practices promoting interest and success in history-social science among all students. History departments typically play central roles in the programs.

- **Professional Development in Reading and Language Arts:** [Sacramento State’s Reading and Language Project](#) provides professional development programs for teachers in the greater Sacramento area in which teachers work together in a learning community. The programs are aligned with California’s Common Core State Standards, English Language Development and Career-Technical Education standards. They are designed to improve student understanding of complex texts and academic language.

CSU Chico and Fresno State also offer research-based reading and language professional development projects. CSU Chico serves teachers in the counties of the North State area. Fresno State’s professional development program serves teachers in the Fresno and Central Valley region.

- **Professional Development for Teachers in Writing:** Several campuses collaborate in a network committed to advancing high quality writing instruction, with a special focus on meeting the needs of English learners, native speakers with low literacy and students from economically disadvantaged communities. CSU Chico leads the [Northern California Writing Project](#), Fresno State and [Stanislaus State](#) lead professional development in the San Joaquin Valley and CSUN, CSUSM and SJSU provide professional development in their regions.

As an example of their innovative features, [Stanislaus State offers Super Saturday Seminars](#). Each Saturday Seminar features exemplary writing teachers and includes 90-minute demonstrations and discussion. Teachers can earn one unit of Extended Education credit as they further develop knowledge and skills.

The CSU Northridge Writing Project hosts an annual [Write to Literacy Conference](#) featuring nationally prominent speakers and makes it available not only to current teachers across the region but also to its credential and Master’s Degree students.
• **Professional Development for Teachers in World Languages:** Several campuses participate in a collaborative network and offer year-round professional development in World Languages to educators intended to strengthen the teaching of languages and cultures.

The programs involve world language teachers in professional learning communities that foster effective practices in language teaching, deepen content knowledge and pedagogical skills and provide leadership development opportunities. The project encourages the retention, expansion and articulation of World Language programs across all language levels, especially in the critical languages and cultures deemed to be essential for California students to contribute to and successfully interact in our linguistically and culturally diverse society.

Fresno State offers professional development programs in Central California, Sacramento State in the broader Sacramento capitol areas and **CSUMB in its region.**

• **Statewide Leadership in the Arts:** **Statewide Leadership in the Arts is provided by CSUSB.** Along with a network of regional sites, the program develops teacher leaders in designing programs aligned with the California Visual and Performing Arts, California Common Core State Standards and Career-Technical Education standards. Its professional development focuses on supporting all students' success in the arts. In its **RIMS California Arts Project**, CSUSB serves the greater San Bernardino region. In its **Valley Sierra California Arts Project**, it provides programs for teachers in Amador, Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare and Tuolumne counties.

The Arts project led by CSU Chico, the **Northern California Arts Project**, provides professional programs for teachers in Butte, Del Norte, Glenn, Humboldt, Lassen, Modoc, Plumas, Shasta, Siskiyou, Sutter, Tehama and Trinity counties.

• **Redwood Science Project:** Humboldt State offers professional development for teachers in the Redwood Empire region. The **Redwood Science Project** develops and enhances science content knowledge and pedagogical skills necessary to implement the NGSS. The **North Coast Math and Science Initiative** provides professional development for teachers who seek certification in secondary math and science. The Redwood Writing Project provides in-service programs for experienced and pre-service teachers as well as beginning teachers rooted in a teachers-teaching-teachers model. The **California Geographic Alliance** fosters teacher expertise in geography education in a
partnership with the National Geographic Society.

- **Bilingual Authorization**: Cal State LA offers a certificate program that authorizes bilingual teaching for teachers in the Los Angeles region. It is offered in five languages: Spanish, Mandarin, Cantonese, Filipino (Tagalog), and Korean. The campus is unique in offering a bilingual authorization in this wide range of languages.

  CSUSM and SDSU offer a certificate preparing current teachers for bilingual instruction in Spanish. The three campuses’ programs lead to state authorization for veteran teachers in bilingual instruction at a modest cost.

- **STEM Certificate**: CSUSB offers a STEM Certificate for Educators. The certificate program has an emphasis on problem-based hands-on learning and real world applications, equipping teachers to enhance school programs addressing the NGSS. It is available to educators interested in advancing their expertise in STEM education, including K-12 teachers and after-school instructors. The program can be customized for groups, schools or districts, can be offered at school sites, and is available at a range of convenient days and times.

- **Foundational Level Math and Science Credential**: CSULB has offered math and science professional development to assist elementary teachers to obtain a Foundational Level Credential in Math or Science. These added authorizations require that teachers pass challenging California Subject Examinations for Teachers (CSET) in math. The program is distinctive in including four math content courses to enhance elementary teachers’ subject matter knowledge as well as preparation in effective pedagogical practices in math. It has resulted in high success rates of teachers on the required math CSET tests.

  Professional Development Partnerships with Districts and Schools

- **Lesson Study**: CSULB has had partnerships with local school districts designed to introduce the Japanese model of Lesson Study to schools, including a model program with Little Lake School District and its elementary and middle schools.

  The program carefully followed the internationally recognized Lesson Study approach—professional development in which teams of teachers collaboratively plan, research and study their instructional lessons as a way to determine how students learn best and introduce the most effective practices. Research showed teachers’ were better equipped to teach the CA CCSSM.

- **TEEM Elementary Math Program**: CSUSB works with districts in its region in its Teaching English Learners Mathematics (TEEM) program. It equips elementary
teachers and administrators to support English Learners as proficient thinkers in mathematics. It is focused on primary education and supports current elementary teachers in addressing the needs of English Learners in math. Both teachers and principals in collaborating schools develop knowledge regarding combined approaches to literacy and math through cycles of inquiry based on the Japanese Lesson Study model. The project has been aimed at overcoming the achievement gap in math among English Learners, who represent more than one-third of the populations at the schools the program has served.

- **New Generation of Educators Initiative:** Through the New Generation of Educators Initiative supported by the S. D. Bechtel, Jr. Foundation, several campuses have offered K-8 teacher professional development with partner schools. The collaborations serve school site mentor teachers whose roles include co-teaching and coaching of CSU future teachers.

The campuses and the districts identify a set of key prioritized skills that are essential for teachers in the district to possess, including beginning teachers. The professional development includes attention to advancing these skills, observing to see use of these skills in teaching practice and rubrics for assessing proficiency in these skills.

District partnerships include CSUCI's with districts in Ventura County. This model includes a focus on helping district teachers attain National Board for Professional Teaching Standards certification. The CSUMB model program with Monterey Peninsula Unified School District offers a master’s level course on instructional coaching for mentor teachers.

- **Investment in Innovations Program:** CSUN has a partnership with the Los Angeles Unified School District that has had federal support through the Investment in Innovations program. The program, Collaboration Resulting in Educators Applying Technology Effectively (CREATE), prepares middle school teachers to use and develop their own apps for iPads and other tablets that enhance teachers’ knowledge and skills and student success in algebra. It uses the Responsive Teaching Cycle, a professional development model that utilizes teachers’ own classrooms as laboratories as they engage with other teachers in inquiry about the algebra learning needs of students.

- **California Elementary Math & Science Professional Learning Initiative:** Several CSU campuses have developed innovative math and science partnerships with elementary schools, their teachers and principals through the California Elementary Math and Science Professional Learning Initiative of the California Department of Education.

SJSU has partnered with low-income Franklin McKinley School District to develop teacher expertise in grades three to six in the CA CCSSM. CSU Northridge has partnered with the Los Angeles County Office of Education and five low-income schools in developing science, technology, engineering, arts and technology learning environments and school site professional learning communities. Partners have included NASA’s Jet Propulsion Laboratory.
Project ESTEEM at CSU Chico provides professional learning opportunities in science education for collaborative teams of elementary teachers and their principals. Its primary goals are to improve instructional practice and leadership in elementary science education in rural school districts in northeastern California and to create partnerships between schools and the university. The project has developed ongoing regional partnerships that support elementary teaching and learning of the NGSS and it has produced and disseminated innovative elementary science curriculum units, meeting the needs of teachers for resources to implement the NGSS.

- **Hands-On Science Laboratory**: CSU Chico has a highly innovative Hands-On Science Laboratory providing professional development in science for elementary teachers. It is a science lab learning environment that elementary schools visit for a half-day of professional learning for the teachers addressing effective science instruction and of interactive learning experiences for their students in science, with particular attention to the NGSS. The teachers and their students participate in actual science experiments, record their findings, and communicate about them as a learning community. The lab is outfitted with a range of science lab resources. Cal Poly San Luis Obispo has adopted the model in a campus-based Learn by Doing Lab.

- **California Mathematics Readiness Challenge Initiative**: Four campuses are developing highly innovative professional development and curriculum for fourth year high school math through the California Mathematics Readiness Challenge Initiative (CMRCI). The programs will provide in-depth professional learning opportunities in math for collaborative teams of secondary educators, their school-site administrators and faculty from their post-secondary partners to support implementation and evaluation of grade-twelve experiences that are designed to prepare pupils for placement into college-level courses in mathematics.

The four campuses supported through this California Department of Education supported initiative are CSUMB, Sacramento State, CSUSB and SDSU. CSUN is also developing innovative 12th grade math professional development and curriculum resources. The programs directly relate to the CSU Graduation Initiative 2025.

- **California Academic Partnership Program (CAPP)**: Equity and access combined with professional development are central to the work of the **California Academic Partnership Program**. It promotes approaches that improve the academic quality of high schools so more students are ready to succeed in college.

The **CAPP Demonstration Project** (CDP) has been a five-year effort to develop a seamless transition from high school to post-secondary education. Model post-secondary partnerships have been built in 10 high-need schools—with CSU campuses and other post-secondary institutions, including community colleges. As examples, Sacramento State partners with Florin High School in
Elk Grove, CSUEB with Deer Valley High School in Antioch Valley and CSUB with schools in the Kern Union High School district.

- **National Center for Urban School Transformation (NCUST):** The SDSU National Center for Urban School Transformation has innovative partnerships with districts in which they work together to foster significant academic gains. The Center has three primary goals: to celebrate excellence and equity, to disseminate best practices and to partner with schools and districts.

### Conclusion

This comprehensive summary addresses innovation in educator preparation across the CSU. It includes programs led by Colleges and Schools of Education in collaboration with other academic disciplines and district partners addressing preservice and professional development of teachers and other educators. This document will be updated on a regular basis with the goal of presenting an inclusive picture of the full range of innovative practices in educator preparation within the CSU.