



Preparation of Teachers

ISSUE

CSTA believes that achieving scientific and environmental literacy for everyone in California is a high priority. With the adoption of the California Next Generation Science Standards (CA NGSS), teacher preparation programs need to support teacher candidates and all TK-12 students in becoming scientifically and environmentally literate.

BACKGROUND

The adoption of the CA NGSS places new expectations on TK-12 teachers to ensure that science is being taught at every grade level. Before earning their teaching credentials, teachers must provide evidence of subject matter competence. They either pass a standardized exam (the CSET: California Subject Exam for Teachers) or take specific required coursework in their major to satisfy subject matter competency. Teachers in California must also meet Teaching Performance Expectations (TPEs) that are organized into the following areas:

- Engaging and Supporting All Students in Learning
- Creating and Maintaining Effective Environments for Student Learning
- Understanding and Organizing Subject Matter for Learning
- Planning Instruction and Designing Learning Experiences for All Children
- Assessing Student Learning
- Developing as a Professional Educator

In addition, teachers must meet subject-specific pedagogical competencies in relation to (1) developmentally appropriate practices, (2) English Language Development, and (3) subject-specific pedagogical skills (including state-adopted content standards) in a multiple or single subject assignment.

Teacher *candidates* are introduced to, practice, and assessed in these competencies through accredited post-baccalaureate professional teacher preparation programs that engage the candidates in course work (e.g., foundational, learning communities, content-specific methods, educating English Learners and students with disabilities), clinical practice, and a teaching performance assessment (e.g., edTPA or CalTPA). As part of a California teaching credential, teachers are authorized to provide instructional services to English Learners. Teachers may add a Bilingual Authorization to provide instruction in the authorized language (e.g., Spanish).

Position Statement

Approved by the
CSTA Board of Directors
March 7, 2020

Teachers must understand the three dimensions of the CA NGSS, the integration of the Environmental Principles and Concepts (EP&C), the shifts in teaching and learning brought about by NGSS and the EP&Cs, and how to plan for equitable instruction to meet the demands of CA NGSS.

DECLARATIONS

CSTA believes that...

- Because all teachers must provide evidence of **subject matter competence** and demonstrate subject matter pedagogy to earn their teaching credentials
 - All required subject matter measures (CSETs; Teacher Performance Assessment) must align to the CA NGSS;
 - Subject matter preparation (i.e., waiver) programs must align to CA NGSS;
 - Across coursework and clinical practice, teacher preparation programs must support teacher candidates in learning how to (1) plan NGSS aligned curriculum, (2) enact NGSS informed and developmentally appropriate instructional practices, and (3) assess NGSS performance expectations. Candidates must be supported in leveraging their students' academic experiences and funds of knowledge while planning, instructing, and assessing.
- Although **elementary and secondary science method courses** might differ in scope, methods faculty must model culturally responsive instruction and provide experiences and tools to support teacher candidates in
 - Understanding the three dimensions of the CA NGSS and the integration of the Environmental Principles and Concepts;
 - Equitably addressing the needs of typically underserved student populations in science, including English Learners, girls, students with disabilities, and students of color;
 - Integrating science with Common Core State Standards, English Language Development Standards, and other content areas as appropriate (reference Conceptual Shifts; NGSS Framework);
 - Eliciting student thinking and interpreting evidence of student learning in relation to NGSS performance expectations while leveraging students' experiences and funds of knowledge. (Moll, citation; footnote)
- Given how influential a candidate's **clinical practice experience** is, teacher preparation programs must collaborate with LEAs to
 - Identify and place teacher candidates in schools that serve diverse students where **high-quality science** is being taught effectively and consistently, and where they can consistently practice teaching science;
 - Ensure that university and district employed supervisors deeply understand and can mentor teacher candidates in the CA NGSS and the integration of the Environmental Principles and Concepts;
 - Ensure that district employed supervisors have implemented or are in the process of aligning classroom instruction to the CA NGSS and will support teacher candidates in the teaching of science that is consistent with the CA NGSS.

Footnote: González, N., Moll, L.C. & Amanti, C. (2005) (Eds.). Funds of knowledge: Theorizing practices in households, communities, and classrooms. NJ: Lawrence Erlbaum Associates.