



This workforce solution was funded by a grant awarded under Workforce Innovation in Regional Economic Development (WIRED) as implemented by the U.S. Department of Labor's Employment and Training Administration. The solution was created by the grantee and does not necessarily reflect the official position of the U.S. Department of Labor. The Department of Labor makes no guarantees, warranties, or assurances of any kind, express or implied, with respect to such information, including any information on linked sites and including, but not limited to, accuracy of the information or its completeness, timeliness, usefulness, adequacy, continued availability, or ownership. This solution is copyrighted by the institution that created it. Internal use by an organization and/or personal use by an individual for non-commercial purposes is permissible. All other uses require the prior authorization of the copyright owner.



STEMCAP Transitions Welcome



Reminder:

STEM Collaborative Action Plan Project Goal:

“Develop a collaboration and a strategic action plan to increase the number and support the development of science, technology, engineering and math (STEM) students, graduates, teachers, professors and mentors within the California Innovation Corridor and the State of California, leveraging the resources and efforts not only of education and academia (K-20, public and private), but of industry and the informal science network”





Seamless Transitioning



DRAFT Goal Statement

Every student in the corridor/State will be motivated, academically prepared and realize potential in STEM academic areas and will have the opportunity to participate in the STEM professional workforce upon completion of elementary, middle, high school, certificate, AA, transfer, BS and graduate degree.





Inspire



- Inspire students with confidence through success
 - Successes in STEM help other areas like English and art by giving students confidence
- As early as preschool
 - GEMS, FOSS (Full Option Science System) may serve as potential resources.
- Through culturally valid role models and mentors
 - Hollywood can serve as source of inspiration
 - Female and African American astronauts
 - Famous entrepreneurs





Inspire



- Through parent involvement
- Career path choices
- New culture of science and technology
 - Address culture that sets limitations for career development
 - Student expectations derived from experiences of parents
 - Alternative media; Blogs, YouTube, radio, etc.





Inspire



- Urban reality
- Community economic vitality
- New stereotypes and expectations
- Innovations
- Partnerships for seamless transitions
- Informal Education
 - Science centers; there exists an association of science centers
 - Girl Scouts, Boy Scouts





Engage



- Each student
- California STEM industries
- Connect nodes on the lattice
- Provide opportunity at all transition points
 - Help students to understand impact of decisions made during grades 1-8 on future opportunities
 - Can use STEM Inventory as resource to map opportunities





Engage



- Motivate students with real opportunities
 - Raise student awareness of how important it is to engage early in academics in order to create future opportunities
 - Raise student awareness of lifestyle choices and the impact on future career opportunities such as security clearances
 - Career preparation can be started as early as middle school, but most students are not concerned with college until much later



Engage



- Create opportunities to motivate students
 - Engage professional societies
 - NACME, AIAA, ASME, SHPE, IEEE
 - Students can become involved with professional leadership very early on (middle school) by giving papers at student conferences, etc.
- Mentoring plays a critical role in engaging students
 - Use technology to connect with and between students (email, text messages, etc.)
 - University students can leveraged for outreach
 - Engage parents and enable them to serve as role models
 - Parental involvement is often lost when abstract math is encountered



Engage



- Partnerships created by students should be enduring
- Though model proven programs during and outside of school day
 - After school programming can be used to address lack of time in classroom for STEM.
- Informal organizations, NPO's, CBO's
Professional organizations
 - Girl Scouts, Boy Scouts, Science centers
- All technologies





Educate



- Create new measures of student/educator success
- Resources needed for real equipment used in STEM jobs
- Experienced educators with practical experience as well as teaching strategies in STEM
- Redefine professional development for teachers
 - Include pre-school
 - GEMS, FOSS (Full Option Science System)





Educate



- Redefine grade levels and early activities
- Provide alternative pathways, time, and modes
 - Can make use of NADE data/reports?
- Real skills, subject matter for jobs of future
 - Teachers are not able to fit STEM into schedule due to existing policies
 - Project based learning plays critical role
 - 21st century workforce vocational courses, career technical education



Educate



- Redefine vocational education and academic relevance
 - Technology and engineering are not addressed by current opportunities
 - Need to create a Technology and Engineering pathway
 - This may be an area to address with a policy change



Educate



- Review standards for relevance
 - California Schools are behind other states
 - There is no existing test/standard for Technology and Engineering at the elementary level.
 - The current standards are not necessarily designed to create opportunities for the students who excel at them
 - Existing standards for CA science are like a laundry list and difficult to accomplish
 - High School math curriculum is not focused on applications and turns kids off
 - Industry outreach may apply here





Employ



- All transitions have direct link to work force opportunity
- Allow opportunity to step out to work and then return to further education
- Multiple entry and exit points
- Collaborate with industry



Best Practices Criteria



- Measured
- Evaluated
- Both formal and informal
- Portable
- Replicable
- Applicable to diverse audiences
- Inspiring
- Access or delivery mechanism
- Success based





Best Practices Criteria



- Sustained
- Relevant to STEM
- Innovative
- Scalable
- Partnerships include all stakeholders
- Cross segments
- Defined focus area
- Leadership driven
- Cost effective...affordable
- Improvement cycle defined





Measure of Outcomes



- Short Term
- Long Term



STEMCAP May 19th Forum



LAX Westin

8:00 a.m. – 9:30 a.m. Steering Committee/Spkr breakfast

9:30 a.m. – 3:30 p.m. Forum/Working Group session

Confirmed Speakers:

- State Superintendent of Public Instruction – Jack O’Connell
- President CAL Poly SLO – Warren Baker
 - System Lead for Math and Science Teacher initiative

Invited:

- Rick Stephens – Sr. VP, The Boeing Company

Working Group Session – Same three break-outs

