STEM EDUCATION

Building Partnerships: For our Children and the Future of our Nation

STEM Group Discussions

Pressing issues were identified and then Breakout groups formed to resolve these issues and propose possible actions. These groups are expected to form the beginning of standing committees in the ongoing SEC Collaborative.

Group 1 – Structure for Collaborative Partnerships across Sectors

Goal: Convene stakeholders to partner and collaborate in order to provide high-quality STEM programs.

Participants: Dawn Hinchman, Michael Emrich, Marty Waldman, Chris Roe, Mark Seiberlich, Marcella Klein Williams, Rita M. Delkeskamp.

Stakeholders: County Office of Education, Pre-K Educators, Colleges/Universities, Businesses, Publishers/Textbook companies.

Actions:

- Field trips to Vandenberg Air Force Base, Diablo Canyon Nuclear Power Plant, oil platforms, Local Maker Faire, Solarponics and architectural firms.

- Organize partners and resources to provide students with real-world opportunities.

- Mentorship programs.

- Organize "cooperation" for students to create projects that impact community stewardship.

- Collaborate with agriculture community to develop the idea that farming is science.

- Reach out to at-risk/low income families.

- Collaborate on Pre-K-16 curriculum, projects, facilities.

- Use current structure (i.e. Curriculum Education Council) to identify 1 common "project" to develop collaboratively with universities/colleges, businesses and publishers and then implement county-wide.

Group 2 – Funding

- STEM grant and other funding repository
- Establish partners and funding needs
- Put together a-team-load and partners to give best chance to be competitive and successful
- Post grant success and lessons learned (if not successful with grant)
- Sources of funding—Corporate foundations, non-profit education, state and federal grants.
- Product of grant produces measurable outcomes to compete—some require proven results and research

Group 3 – Teacher Training and Support

Goal: Sustained STEM professional development

Participants: Sarah Cameron, Tina L., Kathie M., Stacey Russell

Ideas and Possible Actions:

- Communication of STEM professional development opportunities to teachers in SLO/SB Counties
- Encouragement of in-class training and support
- Integration of STEM curriculum into other content areas
- Recommended next steps: Creak Website, List professional development resources available

Group 4 – Student Mentoring/Apprenticeship

Goal: STEM Social Network—Interactive Network Tool—linking experts and opportunities to students and teachers.

Participants: Dan Howard-Greene, Larry Price, Anne Marie Bergen, Ray Weymann, Christine Reed, Debbie Guardado

Possible Actions:

- County Office of Education could be the facilitator (list of mentors, apprenticeships and internships)
- Apprenticeship Certification—Courses—develop a skill set—earn certification—student electronic portfolio built

Group 5 – Project-Based Learning

Goal:

Participants: Dominic Dal Bello, Richard Fryer, Megan J, Mary Jo Nordyke, Eric Doster, Dynia Valdovinos, Kari Mattina

Ideas:

- Online database for project-based learning: resources and projects with reviews, a virtual repository.

- Tips for running projects—how to facilitate.

- Teacher training—real life experience.

- Next steps:

- Project email group

- Sample projects search

- Connect with communication group

- Allen Hancock College Friday Night Science—connect with contact person, Eric Doster.

Group 6 – Out-of-Classroom Learning

Goal: Integrate STEM into out-of-classroom learning

Participants: CREEC (Teresa Lees), Cal Poly, SLCUSD, Santa Maria Discovery Museum (Kelly White O'Neal), YMCA (Linda Wingert) Exploration Station (Deborah Love and/or Claude Hartman)

- Idea: Form a partnership between resources and programs.
  - Possible actions:
    Identify/inventory resources and programs on the central coast.
  - Define needs of out-of-classroom sites.
- Idea: Increase STEM-oriented out-of-classroom learning, focusing on after school programs, events (camps, fairs, Passport) and museums.
  - Possible actions:
    Identify STEM-qualified teachers and leaders.
  - Adopt greener schools initiatives in out-of-classroom learning.

Group 7 – Promoting STEM Image

Participants: Brad Schultz, Marco Chang, Derrick Lavoie, Scott Hollister

Chart with "STEM" in the center surrounded by interconnecting arrows with Government, Media, Education, Business and Community.

Internet—Facebook Links

Group 8 – Communication

Goal: Connect stakeholders (students, parents, organizations, businesses, research and development, educators, interns and volunteers) via a clearinghouse to facilitate local access and coordination of STEM opportunities.

Participants: Steve Kliewer, Jamie Foster, Tammy B., Patti Garrett, Kevin Drafinski, Emilia S., Tanja Kehler, Lisa F.

How to: website including database, calendar, newsletters, email subscription, personal contact, phone calls, etc.

Group 9 – Improving STEM Instruction for K-12

Participants: Allen Bailey, Darla Batistic, MaryLou Gooden, Tom Harrington, Joyce Hunter, Claire P., Teresa Terry, Dustin Wyke

Goal: Inspire K-12 students and teachers to embrace STEM education.

Ideas and Possible Actions:

- After/in school enrichment
- Subject integration
- Articulated K-12 standards and curriculum (advocate at state level)
- Professional development for teachers
- STEM specialists in elementary schools
- Utilize local projects/groups/ experts (example: FIRST Robotics Team 973) to inspire students