Workshop 4: Fostering Environmental Leadership in K-12 Students
WRRC Conference Results (June 9-10, 2010)

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4. Engaging Teachers through Development and Ongoing Support

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Fostering Environmental Leadership in K-12 Students: Workshop Results

1. Empowering Youth
2. Student Development
3. Community, Agency, and Business Involvement
4. Engaging Teachers through Development and Ongoing Support

Post-Idea Share
DAY 1: Roundtable Session Results sorted by question

Develop strategies for fostering environmental leadership in K-12 students.

To get you started thinking about recommendations, strategies and best practices, discuss answers to the following questions:

1. What experiences are critical for students to have in order to become environmental leaders?
2. What resources are needed to make these critical experiences happen? Identify people, organizations, and resources in Arizona that are resources/leaders in this area, or are helping to create leadership.
3. If we are able to create the experiences that are critical for students to become environmental leaders and we had the resources to create those experiences, would we have everything we needed?

Question 1:

- Get kids in nature to create a sense of “ownership to area”
  - Create a means for them to connect with nature, develop a “contagious” passion for the environment. Ex: camping, reading *Nature Deficit Disorder*, field trips
- Develop “life-long learners”
  - Track students for post-graduation success; reinforce post-high school job opportunities, scholarships, incentives, and steps to desired career. “We develop athletes, we should develop leaders”
- Encourage hands-on activities with real world issues
  - Done to motivate students and continue awareness, explore the socio-economic impact that limits exposure to the environment
- Encourage adaptation to a changing world
- Encourage collaboration with community
  - Connect students with older students, industry member, community, group projects, internships, mentorships, find charismatic role models
- Generate an understanding of impact
  - Ex: water awareness via Water Audit, teach students how other people and culture obtain water, measure the amount of water the student uses throughout the day, the water required to grow food stuffs
- Role play
  - Explore collaboration, problem solving, and critical thinking
- Community service
Get students involved in the solution, encourage empowering experiences, tie in to science, host Water Festivals to teach community via models/visual aids

- Provide opportunities to present what is learned
  - Ex: in a group setting, classroom, chamber of commerce meeting, science fair, competition, etc.
- Explore national and global ties to the students actions
  - How would the world be if everyone consumed water and natural resources like the U.S.?
- Explore the disconnect between knowledge and decisions
  - Where does water add value to education? What do people value about environmental education and why do these values differ? How can it be linked to the science and social science curriculum?
- Encourage students to explore different vantage points
  - What do students believe causes environmental degradation? Where are credible sources of information?
- Improve research skills
- Bring current events into the classroom
  - Increase awareness, an understanding of human impact, become informed decisions, make it relevant
- Teach students that failure is okay
  - How to lead after a poor experience is encountered, keep trying, remember, “it’s a process, not an isolated experiment”

Question 2:

- Establish funding
  - Locate sponsors, streamline grant applications, generate business partnerships, fund those environmental areas deemed a priority
- Encourage environmentally friendly classroom practices
  - Minimize paper usage, increase technology, create outdoor green spaces, etc
- Develop professional connections with community members, businesses, government officials
  - Use “two-way communication” to learn and teach one another
- Build a database of information with curriculum, lesson plans, etc
  - For teachers (AAEE, litserve), students, and community (USFS, USGS, United Way)
- Encourage school officials to be supportive of environmental endeavors
- Generate supportive families
  - Give kids a reason to be excited and share knowledge with parents
- Create a better classroom environment
  - Smaller classroom size, more resources, establish an equipment library
- Find ways to connect youth with the campus and community
  - Make it “easy to network”
• Generate “human capital” so there are people to support, run, manage, and monitor programs via teacher education and community involvement

Question 3:

• Ask for student input: they have their own perspective
  o Ex: Sweetwater Wetlands solicited student involvement while planning
• Request community and family input—they have a social responsibility to educate
• Encourage people to move away from a consumer culture
  o “Let go of privileges”
• Put data into a kid-friendly perspective: “they’re curious and just need the opportunity to ask questions”
• Remember that everything takes time and we must make time for change

Comments from Group Share:

• Empower students to take ownership of understanding and acting on environmental issues and then communicating their thoughts with others.
• Our community (US) needs to be involved IN and WITH classrooms through mentoring, internships, and presentations.
• We need to promote certain critical experiences for students including hands-on, minds-on, authentic experiences relating to real world issues.
• Understand that change takes time but we can be encouraged by improvements. With that, we need to allocate time appropriately to make necessary changes.
• Our community should support the funding or human capital (teachers), supplies, and materials, and other critical experiences to actively develop our youth as environmental leaders.
• Increase extension to educate “urbanites” about AG, where their food comes from, and what it takes to be grown
  o Encourage participation in 4H, FFA, and scouts
• More time and funding for education through arts and sciences and the collaboration of the two
• Centralize the grant process to make applications simpler and combine available resources
• Have a way for scientists, teachers, and artists to collaborate
• Learn to be a part of the environment/water network
• Create mentoring relationships and networks across public and private sectors
• Create more resources for emerging grassroots leaders
• Gain business support for educational programs, internships, and training
• There needs to be a more focused connection between funding sources and environmental education programs. “Water education is not valued enough.”
Fostering Environmental Leadership in K-12 Students: **Session Results in a 4 Part Process** (Empowering Youth, Student Development, Community, Agency, and Business Involvement, Engaging Teachers through Development and Ongoing Support)

1. **Empowering Youth**
   “Empower students to take ownership of understanding and acting on environmental issues and then communicating their thoughts with others.”

   - Develop “life-long learners”
     - Track students for post-graduation success; reinforce post-high school job opportunities, scholarships, incentives, and steps to desired career. “We develop athletes, we should develop leaders”
   - Explore national and global ties to the students actions
     - How would the world be if everyone consumed water and natural resources like the U.S.?
   - Explore the disconnect between knowledge and decisions
     - Where does water add value to education? What do people value about environmental education and why do these values differ? How can it be linked to the science and social science curriculum?
   - Put data into a kid-friendly perspective: “they’re curious and just need the opportunity to ask questions”
   - Ask for student input: they have their own perspective
     - Ex: Sweetwater Wetlands solicited student involvement while planning
   - Learn to be a part of the environment/water network
   - Create mentoring relationships and networks across public and private sectors
   - Create more resources for emerging grassroots leaders

2. **Student Development**
   “We need to promote certain critical experiences for students including hands-on, minds-on, authentic experiences relating to real world issues.”

   - Get kids in nature to create a sense of “ownership to area”
     - Create a means for them to connect with nature, develop a “contagious” passion for the environment. Ex: camping, reading *Nature Deficit Disorder*, field trips
   - Encourage hands-on activities with real world issues
     - Done to motivate students and continue awareness, explore the socio-economic impact that limits exposure to the environment
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Workshop 4: Fostering Environmental Leadership in K-12 Students

- **Role play**
  - Explore collaboration, problem solving, and critical thinking

- **Community service**
  - Get students involved in the solution, encourage empowering experiences, tie in to science, host Water Festivals to teach community via models/visual aids

- **Provide opportunities to present what is learned**
  - Ex: in a group setting, classroom, chamber of commerce meeting, science fair, competition, etc.

- **Improve research skills**

- **Teach students that failure is okay**
  - How to lead after a poor experience is encountered, keep trying, remember, “it’s a process, not an isolated experiment”

- **More time and funding for education through arts and sciences and the collaboration of the two**

3. **Community, Agency, and Business Involvement,**
   “Our community needs to be involved IN and WITH classrooms through mentoring, internships, and presentations.”

- **Encourage collaboration with community**
  - Connect students with older students, industry member, community, group projects, internships, mentorships, find charismatic role models

- **Establish funding**
  - Locate sponsors, streamline grant applications, generate business partnerships, fund those environmental areas deemed a priority

- **Develop professional connections with community members, businesses, government officials**
  - Use “two-way communication” to learn and teach one another

- **Find ways to connect youth with the campus and community**
  - Make it “easy to network”

- **Encourage people to move away from a consumer culture**
  - “Let go of privileges”

- **Request community and family input—they have a social responsibility to educate**

- **Gain business support for educational programs, internships, and training**

4. **Engaging Teachers through Development and Ongoing Support**
   “Our community should support the funding or human capital (teachers), supplies, and materials, and other critical experiences to actively develop our youth as environmental leaders.”

- **Encourage students to explore different vantage points**
  - What do students believe causes environmental degradation? Where are credible sources of information?

- **Bring current events into the classroom**
  - Increase awareness, an understanding of human impact, become informed decisions, make it relevant
• Encourage environmentally friendly classroom practices
  o Minimize paper usage, increase technology, create outdoor green spaces, etc
• Build a database of information with curriculum, lesson plans, etc
  o For teachers (AAEE, litserve), students, and community (USFS, USGS, United Way)
• Encourage school officials to be supportive of environmental endeavors
• Generate supportive families
  o Give kids a reason to be excited and share knowledge with parents
• Create a better classroom environment
  o Smaller classroom size, more resources, establish an equipment library
• Generate “human capital” so there are people to support, run, manage, and monitor programs
  via teacher education and community involvement
• Remember that everything takes time and we must make time for change
• Increase extension to educate “urbanites” about AG, where their food comes from, and what it takes to be grown
  o Encourage participation in 4H, FFA, and scouts
• Centralize the grant process to make applications simpler and combine available resources
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Day 2: Workshop Results

Fostering Environmental Leadership in K-12 Students

1. **Empowering Youth:**
   - **Ownership/buy-in**
     - What difference can I make?
     - Leadership delegated to students
   - **Encourage taking responsibility for actions**
     - Understand that actions have consequences
     - Ex: school water audit, student-led lessons/kids teaching kids
       - In the classroom, across classes/schools, within community
       - Camps, community action network, job shadowing, teacher training (professional development), community service
   - **Teacher creates experiences to connect knowledge to action/student involvement**
     - Exposing students to many viewpoints and lifestyles
     - Outreach with community to expose students to many ideas/careers
     - Invite community leaders to speak about their experiences (leadership usually isn’t chosen)
     - Giving students an opportunity to fail
       - See failure as an opportunity, is anything ever a failure if you learn from it?
   - **Allow/encourage students to bring information home to teach their families**
   - **Hands-on lessons that have meaning and where kids can take ownership**
   - **Introduce possibilities for future to expand vision, careers, opportunities**
   - **Connect skills (writing a resume, market yourself, identify steps toward career/goals**
   - **Building curriculum with student input**

2. **Student Development:**
   - **Internet**
     - Resource, continually evolving, connections
   - **Environment**
     - Step outside
   - **Interact with scientists in field**
     - Visit site, visit school
     - Ex: trash collection at school/neighborhood, recycled art, global climate/Tumamoc, GIS/GPS run-off (where to put a garden)
   - **Job training K-12**
     - Companies, organizations, willingness to provide internships, money, jobs, school credit
   - **Technical schools/skills**
     - Learn plants and animal ID, bucket chemistry, certificates in water quality, entomology, botany, etc., worm farms/composting, community/school gardens
• Institutionalize programs/active learning
  o Need administration buy-in and support
• Develop schools that practice sustainability
  o Where is the incentive/reward for teachers doing this if not all involved

3. Community, Agency, and Business Involvement:
• Needed: resource clearinghouse
  o Webpage?, Wikipedia page?, Facebook?, Speakers Bureau?
• Starting Point...
  o IN to schools:
    ▪ Open houses, career days/presentations, PERSONAL CONNECTIONS, natural partnerships/bridges
  o WITH schools:
    ▪ Mentorship/internship/shadow, video film festival, reward system
    ▪ Teacher/student partnerships
  o WITH teachers:
    ▪ Workshops/symposiums, supporting teacher education and development ($$$ and expertise)

4. Engaging Teachers through Development and Ongoing Support:
• Post-it Note comments:
  o Make environmental education ubiquitous culturally
  o An environmental education campaign that includes consolidating resources
  o Emphasize EE for content area, textbook adoptions
  o What are you teaching? With water bill
  o Approach curriculum developers, make teacher a part of curriculum development
  o Make EE material available to teachers, assess their needs, get their input (via voting)
  o Centralize equipment maintenance and lending site
  o AAEE website
  o Udall Center—help think through EE campaign
  o Administratively modeled, integrated into culture
  o Forum for posting teacher suggestions
  o Train teachers to tap into community resources
  o Database of community resources with access to procedures
  o Customize teacher standard kits to make them locally relevant
  o Regular teacher training
  o Online textbooks, development, opportunity for course credit online
Post-Idea Share:

- Where to locate funding, both monetary and in-kind (for clearinghouse/online communication channel, marketing campaign, central tangible repositories)
  - Can state agencies or businesses fund buses for field trips?
  - Clearly articulate need and outcomes
    - Cost/benefit analysis
  - Build mutually beneficial partnership, a resource exchange
    1. Create communication forum
    2. Training in needs analysis, grant writing, and making community connections
    3. Connect

- Community Action Network
  - Connect with parents (re: Facebook group)
    - Recruit parent involvement for field trips/school activities
  - Building alliances
  - Tucson Environmental Action Network for Students
    - Outside of school
  - Involve elders in the community—retired persons
  - Use online connection for students to share information
  - Environmental Summit for Youth
    - During school