The Utah Society for Environmental Education’s (USEE) Utah Project for Excellence in Environmental Education – K-12 /Formal Education Component (UPEEE), with primary funding from the United States Environmental Protection Agency, will strengthen the capacity for quality and effective environmental education (EE) programs in the state of Utah through non-formal EE provider and teacher partnerships. The first step in understanding EE needs throughout the state was to conduct an inventory of current EE efforts that provide programs and materials focusing on Energy Conservation, Water Quality, Air Quality, Waste Management issues and other EE topics. The second step in understanding EE efforts throughout Utah was to conduct a Teacher Needs Assessment to determine how to best support and meet the needs of teachers so they can more effectively utilize EE as an integrated context for teaching the Utah State Core Curriculum. The third step in addressing EE in Utah was to conduct regional focus groups involving teachers throughout the state of Utah to receive group feedback about the first two reports and advice on the future steps of this project. The following is a summary of the results found during the Utah Teacher Focus Groups.

Selection Criteria

During the initial Teacher Needs Assessment, participants were asked if they would like to participate in a regional focus group where they would be contributing to a statewide plan to better link formal and non-formal environmental educators. USEE wanted to invite one teacher from each grade level (K-12) in each region. To achieve this, the list of teachers who indicated that they would like to participate in one of the regional focus groups was shown to USEE’s Executive Program Advisory Council (PAC) who identified teachers they knew would be assets to the focus group in their corresponding regions. To fill the remaining spots, and due to the large number of teachers who indicated that they would like to participate, each remaining teacher was assigned a number. A Random Integer Generator was then used to determine who else was to be invited. Once the lists were generated for each region, invitations were sent to nominees. These nominees had two weeks to respond to the invitation before they were skipped and other interested teachers on the list were invited.

Locations

Three focus groups were held throughout the state. The first focus group was held at the USEE offices in Salt Lake City, Utah, on February 13, 2009, with 11 people in attendance (see Table 1). The second focus group was held at the Utah Division of Wildlife Resources Southern Region offices in Cedar City, Utah. This meeting was held on February 18, 2009, and 7 people attended. The last focus group was held on February 27, 2009, at the Bear River Migratory Bird

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1 The surveying process and information that was generated by the first step of the UPEEE grant can be found in the Utah Project for Excellence in Environmental Education – K-12/Formal Education Component: Utah Environmental Education Organization Survey Analysis and Report.
2 The information gathered and the surveying process involved during the Teacher Needs Assessment can be found in the Utah Project for Excellence in Environmental Education – K-12/Formal Education Component: Utah Teacher Needs Assessment Analysis and Report.
Refuge in Brigham City and 10 people attended. In addition to these three focus groups, USEE presented at two conferences where feedback was gathered from teachers participating in USEE’s sessions. The first conference in which this information was presented was the Utah Science Teacher Association Conference on February 20, 2009, in Sandy, Utah. This session had 30 people in attendance. Additionally, feedback was received from four teachers at the Bioregional Outdoor Education Project Conference in Blanding, Utah, on March 7, 2009.

Table 1: Focus Group Attendees

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<thead>
<tr>
<th>Grades:</th>
<th>Salt Lake City (Central Region)</th>
<th>Cedar City (Southern + Southeastern Regions)</th>
<th>Brigham City (Northern + Northeastern Regions)</th>
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<td>Other</td>
<td>Charter School Environmental Specialist</td>
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<td>Other</td>
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Each focus group ran all day and was comprised of two major components. The morning was spent on giving background information about USEE and the UPEEE project. An EE activity that teachers could take back to their classrooms was given and adaptations for the activity were discussed. Then, an overview of the project was given and focus group goals were discussed. Once these objectives had been outlined, the focus shifted towards discussing reactions and connections between the Utah EE Organizational Survey and Utah Teacher Needs Assessment reports. Teachers had received both of these reports upon volunteering for the focus groups and had been asked to study them before attending.

The afternoon was spent problem solving and getting feedback from teachers and their thoughts about EE in Utah. The main question posed to each focus group was, “How can we better implement Environmental Education into Utah classrooms?” Participants were asked to think about centering their ideas on three major groups. The first area was how this question relates to the Utah State Office of Education; the second area was how to address this question with non-formal EE providers and EE organizations; and the last area was how this question
relates to formal K-12 teachers. A brainstorming session and the presentation of participants’ ideas were performed just before lunch. After lunch, the rest of the meeting was spent using Open Space Technology\(^3\) to answer this question.

After the focus groups were completed, as well as the two additional conference sessions, the feedback was compiled and processed using qualitative analysis. Based on the information provided by the teachers, 9 major themes emerged. Many of the themes were interconnected and much of the feedback was relevant in more than one theme. However, ideas from teachers were categorized based on the theme each idea belonged with predominantly (see Appendix A for a complete list of focus group ideas).

**Theme 1: Money and Funding**

The first major theme was Money and Funding. This theme was all-encompassing as every other theme that came out of the focus group feedback returned to issues dealing with funding or money. Suggestions from teachers varied from specific recommendations such as, “Provide mini-grants (ranging from $100-$500) for formal environmental educators. These should be easy to do, easy to report on, and should only be quick, one page applications for teachers,” and, “help teachers and administrators find grants for ‘hands-on’ experiences for students,” to more general concerns like, “funding to teach environmental education.” Many of the suggestions were aimed at EE organizations and tended to generally form around the idea of EE organizations providing programs and materials that are “free to educators and students.”

**Theme 2: Organizations**

The Organizations theme contained targeted suggestions that dealt directly with non-formal environmental education providers and was broken up into four sub-categories: Student Ownership, Long-term Relationships, Resources, and the Elementary to Middle School Split.

**2.1: Student Ownership**

In order to engage students more effectively, a discussion about ways for organizations and teachers to work together ensued to provide students with a sense of ownership over their work. One teacher was a huge proponent of having “opportunities for hands-on [activities] or research done by students so they own it.” He went on to say that students will be more engaged in their studies when they are the ones solving the problems and doing the research. A potential solution for this could be “a guide to real problems that need to be solved so students can get involved and own the solutions.” Teachers went on to conclude that when teachers and organizations communicate better, this type of learning is easily facilitated:

“Environmental Education can be integrated into any subject – organizations should be aware of this, too. Organizations could provide a list of other core correlations that are being covered, other than just the science core.”

\(^3\) Open Space Technology is a method of group problem solving where participants construct the agenda and schedule during the meeting itself. This method was used to tap into teachers’ creativity in order to address the complexity of the question of implementing EE into Utah classrooms.
2.2 Long-term Relationships

Each focus group had many teachers that wanted long-term relationships with the EE organizations in their areas. Suggestions ranged from organizations providing pre and post activities surrounding programs to organizations forming long-term relationships in “community/school partnerships: Schools and organizations that have long term relationships can be used to engage students. This works particularly well with any type of ‘service-learning’ component.” Other examples of feedback included:

“Organizations offer topic experts that will come into schools and work with teachers in the classroom to teach the subject to students and model to teachers.”

“Non-formal educators who will work with teachers on longer/unique units related to their organization.”

“Utilize more citizen-scientist EE programs throughout K-12 curricula – link with service learning.”

2.3 Resources

The third subcategory for Organizations was Resources. Many teachers reported that they would like more “free resources that are left with the teachers.” Other responses included, “Follow-up materials as an extension of what the students are learning,” and advice for organizations to “bridge topics – the flowing of topics is just as important as how you teach. Both parties need to be aware of that and communicate what the students’ background knowledge is.” One of the most interesting ideas to come out of this theme was for organizations to “involve teachers in the development of resources and programs.” Teachers are core specialists and know what other teachers will be looking for when selecting programs to use from other organizations. It would be very beneficial for teachers and organizations to work together in this manner to best serve the educational needs of students.

2.4 Elementary to Middle School Split

In the last section of the Organizational theme, teachers discussed the split between elementary school and middle school/high school. In elementary school, the core curriculum is based on grade and elementary school teachers are accustomed to dealing with matters in this context. For example, when a 2nd grade teacher is looking for a program from an organization, they search for programs that cater to the 2nd grade. The teacher knows that if the program is geared toward 2nd graders, and if core requirements are covered, then the activities their students will be learning will cover the core requirements for the 2nd grade. In high school and middle school the scenario is just the opposite. The core curriculum in secondary schools is divided according to subject, not grade. There is a disconnection here when teachers from any grade level or subject are trying to find programs that will fit their needs as some organizations describe their programs in terms of grade and others in terms of subject matter. The need for programs to be described in either format was expressed by both elementary and secondary educators.

“Organizations can put more interdisciplinary core into programs and highlight this so that teachers know.”
Theme 3: The Utah State Office of Education

The Utah State Office of Education theme was split into three categories: Addressing the Core Curriculum, Gaining Administrative Support, and the Legislature. In addressing the core curriculum standards, many teachers had a lot to say about incorporating EE requirements into the core curriculum. Some of their feedback was:

“Write Environmental Education into the core.”

“Push for EE standards to be included in the core at every grade level and in each subject area.”

“Redesign state core science standards and objectives to use EE as a focal point.”

“EE has to align with core standards to be useful.”

“Integrate [EE] with other subject areas: Science, Visual Arts, Language Arts, P.E., Math, History, etc.”

Many teachers also expressed that gaining support from the people higher up in the administrative process would help to give EE support. Ideas focused generally on both the administrative figures within teachers’ schools and districts, but also on local representatives in the Utah Legislature. Some of their comments were:

“Educate district administrators and local legislators about how EE actually teaches character education, problem solving, and critical thinking, which are necessary for good citizenship.”

“Gain administrative support. – drive support with research, teacher needs and wants, current world trends, and test score improvements.”

“Bring local legislators to non-formal EE programs and field trips with students.”

“Educate legislators on the importance of EE to health and economy.”

Theme 4: Teachers

The fourth major theme, Teachers, contained more concepts and ideas and received more feedback than any other theme. The Teachers theme was broken into 7 subcategories: Teacher Trainings and Workshops, Teacher Networking, High School, Pre-Service Training/Colleges and Universities, School Projects, Supplies/Traveling Kits, and Teacher Retreats:

4.1 Teacher Trainings and Workshops

Teachers generally expressed that they would like more trainings in EE that were grade specific (elementary teachers) or subject specific (secondary school teachers). They also reported that these workshops should be offered by EE professionals. Ideas of how to accomplish this goal included, “support groups for teachers who want to include more EE and could use support,” and, “have EE training as part of the workshops teachers attend a few weeks previous to the beginning of the school year.”
4.2 Teacher Networking

Teachers also reported that they would like an increase in teacher networking opportunities. Some suggestions of how to accomplish this centered on the development of a database or clearinghouse where teachers could read and post successful EE teaching moments, find places for teachers to observe other EE experiences in their areas, and have a space where teachers could find resources and organizations in their own communities that provide EE teaching tools and techniques. One suggestion was to redevelop the Teacher Network, a service previously provided by USEE where representatives from each district could pass on information sent out by USEE to representatives in schools who would then pass that information on to the teachers, and another suggestion included having a conference that was specifically for Formal EE Teachers.

4.3 High School

High School teachers naturally tended to focus on the needs of secondary educators. Teachers stated that more programs are needed for 7th-12th grade students. Focuses on non-science classes was also called for. Some suggestions also included:

“Teach classes about environmental science in high schools.”

“Link EE to careers: spend a day with a Biologist.”

“Train career instructors and councilors about environmental careers.”

“Help non-formal educators have the knowledge and expertise to teach high school students.”

4.4 Pre-Service Training/Colleges and Universities

In the Pre-Service Training/Colleges and Universities subcategory, teachers had many ideas for ways in which colleges and universities could prepare incoming teachers to teach EE in their classrooms. Some of these thoughts were:

“Pre-service teacher workshops – teach teachers how to teach EE. This is still fairly new, and most teachers aren’t really sure where to start, especially if they already have a developed curriculum.”

“Develop better student teaching experiences: match students with experienced EE mentors.”

“Make sure Universities are requiring that students in their education tracks receive EE classes.”

“Teach classes in Environmental Education in colleges for teachers.”

4.5 School Projects

The School Projects subcategory focused on ideas for EE activities that can be incorporated into individual schools or done by students. Input from teachers ranged from starting reusing and recycling programs and forming afterschool clubs based on EE to building
greenhouses, growing native plant gardens, and “offer[ing] outside time (not just structured sport time) with an EE format once a week (during reading time for example – one 20 minute block.)”

4.6 Supplies and Traveling Kits

Supplies and Traveling Kits centered on the idea of teachers needing supplies in order to perform many of the EE lesson plans they would like to provide for their students. One idea that was brought up at the Bioregional Outdoor Education Project Conference was to have pre-made kits for teachers that travel around. In each kit there would be the supplies needed for the teacher and students, as well as lesson plans that went along with the supplies.

4.7 Teacher Retreats

The last subcategory in the overall Teacher theme was the notion of having Teacher Retreats. Ideas in this category ranged from specific ideas of how to accomplish this to more general references such as, “Get teachers outside together.” Other suggestions included:

“Provide opportunities for teachers to ‘fall in love with the environment.’”

“Reward teachers who make EE an active part of their classrooms.”

“Hold retreats where teachers can ‘escape’ their everyday ‘trappings’ and have hands-on experiences.”

Theme 5: Multidisciplinary Approach

The fifth major theme to arise from all of the teachers’ feedback was to take a Multidisciplinary Approach. This theme, like the Money/Funding theme, had many ties to the other themes, particularly the Organizations, State Office of Education, and Teachers themes. Focus Group participants called for “grade specific cross-curricular lessons,” the development of “useable lesson plans that fit into the core curriculum,” and the creation of “a correlation of Utah Core curriculum and established EE material [such as] Project WET, WILD, PLT, and GSLC (Great Salt Lake Curriculum).” Other tools requested were documents, flip-books, and pamphlets outlining EE lesson plans and demos that reach across curriculums.

Theme 6: Clearinghouse or Database

The creation of a major Clearinghouse or Database was the sixth major theme. Many ideas about what information would be provided by this clearinghouse, who would develop, maintain, and provide the clearinghouse, how accessible the clearinghouse would be, and who would use it were discussed. Some of the teacher responses were:

“Provide teachers in all disciplines with EE curricula.”

“Online Region-based resource list of agencies, organizations, people, activities, lesson plans, etc. that are accessible to teachers.”

“Free resources on the web that are grade and core specific for whole units.”
Theme 7: Multi-Stakeholder Buy-In

Multi-Stakeholder Buy-In dealt with getting the entire community to understand the importance of EE and getting them involved. One idea was to involve schools, businesses, and families in community projects that support and focus around EE concepts like the construction and maintenance of parks. Other ideas that were presented are:

“Educate parents, teachers, and administrators to become advocates for EE.”

“Create business allies as EE advocates – triple bottom line.”

“Engage citizens in democratic system.”

Theme 8: Assessment and Current Capacity of EE, Theme 9: Miscellaneous

Assessment and Current Capacity of EE and Miscellaneous were the last two themes that came out of the feedback from teachers. In Assessment and Current Capacity of EE, teachers discussed what the current environmental issues were for Utah and the importance of looking towards other states and countries have tackled similar projects. The Miscellaneous category included three comments from teachers that could not easily be classified into the other themes. These ideas were “safety issues for EE,” “step on [school administration’s] toes,” and “how do we involve all ethnicities in EE?”

Conclusion

The completion of the Utah regional focus groups leads to the next step of the UPEEE project. This step includes the development of a Model Implementation Strategy based on the feedback received from the teachers at each focus group in conjunction with the findings from the Utah Teacher Needs Assessment and the Utah Environmental Education Organizational Survey. This Model Implementation Strategy will be presented at a Summit along with the results discovered during this project. Participants will include representatives from the organizations that completed the Utah Environmental Education Organizational Survey, USEE’s Institutional Members, the Utah Governor’s Office, and the Utah State Office of Education. Representatives will be asked to make commitments on behalf of their organizations to make commitments in furthering Environmental Education in the state of Utah. The presentation of a Model Implementation Strategy and the commitments made by organizations will help to accomplish the goal of the UPEEE project to bring together non-formal educators and formal teachers to work collectively to integrate EE into the everyday classroom experience of students and will inspire and empower both teachers and students to become more environmentally literate.
Appendix A

UPEEE Focus Group Feedback Text

1. Money/Funding
   a. Provide mini-grants (ranging from $100-$500) for formal environmental educators. These should be easy to do, easy to report on, and should only be quick, one page applications for teachers.
   b. Provide grants for teachers who develop environmental education curricula.
   c. Help teachers and administrators find grants for “hands-on” experiences for students.
   d. Funding to teach environmental education.
   e. $
   f. Available funding?
   g. Provide funding of grants to help with associated costs.
   h. Programs that are free to educators and students.
   i. Programs that are inexpensive or free.
   j. Programs that are free.
   k. Non-formal organizations need to make programs affordable for teachers through grants or take grants to teachers to be able to pay organizations.
   l. A lot of organizations know they need to provide transportation, but not all of them do.
   m. What kind on big idea funding should be available to teachers? In other words, how to free up higher education funding for applications that lead to quantifiable results that are not standardized tests?

2. Organizations:
   a. Student Ownership
      i. Opportunities for hands-on, or research done by students so they own it.
      ii. Interactive, exciting, and new.
      iii. More communication between organizations and teachers – this is what we (teachers) need, how can you help us?
      iv. Core training meeting for organizations.
      v. Environmental Education can be integrated into any subject – organizations should be aware of this, too. Organizations could provide a list of other core correlations that are being covered, other than just the science core.
      vi. Create a guide to real problems that need to be solved so students can get involved and own the solutions.
      vii. Re-spark T-Net.
   b. Long-term relationships:
i. More district/state-run Environmental Education Centers or schools
ii. On-going in-school follow-up with teachers to show how and when they can do lessons at or around their school.
iii. Partnerships with local organizations/agencies/people.
iv. Develop community partnerships between schools and Environmental Education programs (i.e. Red Butte Garden and East High School could work together.)
v. Longer term, more in depth problem solving units. Curriculum design help for this. (Like WEST Fellows?) – Can we find research that supports this concept of long term life skill (problem solving) units. Research=funding.
vi. Non-formal educators who will work with teachers on longer/unique units related to their organization.

vii. Project Citizen: Social studies – creates ideas for community – Combine training for program to tie in.
viii. Organizations offer topic experts that will come into schools and work with teachers in the classroom to teach the subject to students and model to teachers.
ix. Community/school partnerships: Schools and organizations that have long term relationships can be used to engage students. This works particularly well with any type of ‘service-learning’ component.
x. Utilize more citizen-scientist EE programs throughout K-12 curricula – link with service learning.

c. Resources
i. Free resources that are left with the teachers.
ii. Some type of “revisit” i.e. email questionnaire, how it’s going after a project is implemented.
iii. Follow-up materials as an extension of what the students are learning.
iv. Bridge topics – the flowing of topics is just as important as how you teach. Both parties need to be aware of that and communicate what the students’ background knowledge is.

d. Elementary/Middle School Split
i. A focus on grade, not subject (from elementary school teacher.)
ii. Remember that there are other groups (not just elementary ed.) – Focus on subject, not grade (from high school teacher.)
iii. There is a disconnect between elementary education (provides students with base) and what upper grades need (need hands-on knowledge application). (Also from a high school teacher.)
   1. Involve teachers in the development of resources and programs.

3. State Office of Education:
a. Core Curriculum Requirements
   i. Write Environmental Education into the core.
   ii. Push for EE standards to be involved in the core at *every grade level* and in *each subject* area.
   iii. Redesign state core science standards and objectives to use EE as a focal point.
   iv. EE needs to be integrated through each K-12 grade level building upon knowledge base (e.g. learn 5-10 Utah plants and animal species each year. Develop better understanding of local phenology, etc.)
   v. Put EE issues into the Core and teachers will teach it.
      1. Have the science core build from grade level to grade level.
      2. Have basic environmental issues one year leading to more complex environmental issues the next year so science is not so scattered between grades.
      3. Put EE ideas into Math, Language Arts, and History Core.
   vi. Gain more presence in the Utah Core. Make “them” see that it is needed. Start small.
   vii. What are the curricular needs that produce an enduring understanding of environmental issues?
   viii. With the current system of testing – put EE concepts/content into the Utah Core for each grade and test. (Other idea is to change standardized testing!)
   ix. Initiate a stable “writing across the curriculum” science conservation curriculum.
   x. Integrate with other subject areas: Science, Visual Arts, Language Arts, P.E., Math, History, etc.
   xi. CRT exams should NOT be the driving force of curriculum.
   xii. Create simple lesson plans or add-ons for lessons that can be adapted for multiple subjects.
   xiii. The core must be addressed.
   xiv. EE has to align with core standards to be useful.
   xv. EE must meet core standards.
   xvi. EE in the core curriculum for ALL grade levels.
   xvii. Non-teachers need to be aware of the core, too. Programs would be better for teachers if they know and use the core.
   xviii. Organization’s are usually so science based, but they could be aware of what other subjects in the core are involved during their programs.
   xix. Have core be accessible to multi-stakeholders (teachers, Non-formal EE, parents, public.)
xx. Organizations can put more interdisciplinary core into programs and highlight this so that teachers know.

b. Administrative Support
   i. Gain administrative support. – drive support with research, teacher needs and wants, current world trends, and test score improvements.
   ii. Train administrators in EE.
   iii. Administration buy-in/support – pressure comes from top-down, but they see the need from the bottom-up.
   iv. Meet with administrators to convince them how critical EE is. – emphasis on different kinds of assessment.
   v. Convince school districts to have a position of someone who will promote and facilitate EE in the district. (They have way too many district reading specialists so why not have one EE specialist?)
   vi. Educate district administrators about how EE actually teaches character education, problem solving, and critical thinking which are necessary for good citizenship.

c. Legislature
   i. Educate legislators about how EE actually teaches character education, problem solving, and critical thinking which are necessary for good citizenship.
   ii. Take legislators and government officials outside.
   iii. Educate legislators on the importance of EE to health and economy.
   iv. Bring local legislators to non-formal EE programs and field trips with students.
   v. What do teachers need to encourage a cultural shift so that congressional leaders understand what value EE can add to the well being of its population?

4. Teachers:
   a. Teacher trainings/workshops
      i. Teacher trainings based on grade level.
      ii. Intensive workshop demonstrating how EE fits/enhances core curriculum.
      iii. Teacher workshops on EE.
      iv. Have EE training as part of the workshops teachers attend a few weeks previous to the beginning of the school year.
      v. Offer high school level teacher field training courses in environmental science. Give them equipment and training to take back to the classroom. Plus a stipend for their time.
      vi. Offer training to educators by professionals.
      vii. District training for schools in EE.
viii. Help teachers focus on the Intended Learning Outcomes of the science core (instead of the content) and provide them with the resources to address them with EE.
ix. Support groups for teachers who want to include more EE and could use support.
x. Provide teacher in-service on EE topics and methodology.
b. Teacher networking
i. Word of mouth – redeveloping the teacher network.
ii. Teachers share successful teaching experiences with other teachers: grade specific, district wide, hopefully environmental. (EE blog for teachers.)
iii. Develop teacher collaborations. i.e. want to create an essential question about an EE topic? Meet once a month to create curriculum (kind of like a book club.)
iv. Observation opportunities for teachers (in-service). Districts build in at least one day for teachers to observe another teacher in their field.
v. Find model programs or schools for teachers to visit.
vi. Teacher EE Conference.
vii. Have a conference where specifically non-science teachers may participate and learn about EE.
viii. Communication with educators about available resources.
ix. Increase awareness and availability of resources that are there.
x. Give assistance to teachers so they can find resources in their own communities and at their school for teaching EE.
xi. How best to create a “sense of place” connection to the land and its people in the place where they live.
c. High School
i. Link EE to careers: spend a day with a Biologist
ii. Train career instructors and councilors about environmental careers.
iii. Teach classes about environmental science in high schools.
iv. More programs for 7-12!!!
v. Help non-formal educators have the knowledge and expertise to teach high school students.
vi. High school global centering on math and science use.
vii. Get state office of education to allow teachers to offer more elective science courses – I would love to teach environmental science at the 9th grade level for credit.
viii. Workshops for non-formal educators on how to develop upper level curriculum.
ix. Focus on non-science classes, too!
x. Project collaboration opportunities: Have a master list of organizations and what they need.

d. Pre-service Training/Colleges and Universities
   i. Pre-service teacher workshops – teach teachers how to teach EE. This is still fairly new, and most teachers aren’t really sure where to start, especially if they already have a developed curriculum.
   ii. Ensuring pre-service educators have the skills to integrate EE.
   iii. Develop better student teaching experiences: match students with experienced EE mentors.
   iv. Better mentoring for new teachers planning new units.
   v. Teacher education (student teaching/credential programs): are we training our teachers in the best way possible?
   vi. Teach classes in Environmental Education in colleges for teachers.
   vii. Make sure Universities are requiring students in their education tracks receive EE classes.
   viii. Universities place student teachers: individualize student placement – find experienced EE teachers to become student teacher mentors.
   ix. How best to work with NCATE in its pre-service mandate for Environmental Literacy.
   x. Higher Education should be involved in this process (pre-service teacher program development, etc.): College of Science, College of Education.

e. School projects
   i. Offer outside time (not just structured sport time) with an EE format once a week (during reading time for example – one 20 minute block.)
   ii. Have schools practice environmental principles. E.g. recycling and reusing.
   iii. Have students work with the multi-media class to produce a documentary on environmental issues.
   iv. Recycling programs.
   v. After schools clubs that are based on EE; these could provide opportunities for students to learn about the material in greater detail and also get students outside – which is critical for helping students make connections with the natural world around them.
   vi. Have students march from one school to another cleaning the road.
   vii. The use of outdoor classrooms – requires funding of structure.
   viii. Utilize the outdoors around you – there are places to take students outside.
   ix. Build a greenhouse and use the plants in lessons.
   x. A garden for every school!
   xi. I think that extensive native gardens on school grounds could facilitate environmental education. Given limitations in funding and transportation,
it makes sense to me to bring plants and wildlife to the schools rather than try to take students to habitats.

f. Supplies/traveling Kits
   i. Pre-made kits for teachers – APS used them to fit scope and sequence.
   ii. Supplies or equipment for EE.
   iii. Equipment for classrooms.

g. Teacher retreats.
   i. Provide opportunities for teachers to “fall in love with the environment.”
   ii. Reward teachers who make EE an active part of their classrooms.
   iii. Hold retreats where teachers “escape” their everyday “trappings” and have hands-on experiences.
   iv. Get teachers outside together.

5. Multi-Disciplinary Approach
   a. Cross-curricular connections.
   b. Demo-a-day book – simple, cheap demos that relate topics.
   c. A multi-disciplinary approach.
   d. Develop useable lesson plans that fit into the core curriculum. If they were grade applicable, that would be a bonus.
   e. Develop resources that focus on all grades and subjects (cross-curricular.)
   f. Create a correlation of Utah Core curriculum and established EE material. i.e. Project WET, WILD, PLT, GSLC (Great Salt Lake Curriculum) to justify inclusion.
   g. Provide grade specific cross-curricular lessons.
   h. Develop cross-curricular programs - all ready-made. Do the front loading – that makes it more likely more will use it.
   i. Correlating programs “outside the box” to meet standards.
   j. Create a cross-curricular document/pamphlet/flip-book for teachers to easily access on desk.
   k. Create a handbook of available resources for distribution like the USEE database.

6. Clearinghouse/Database
   a. Developing and maintaining a clearinghouse for programs and resources.
   b. Create a resource database – teachers love to share lessons and look for new activities and ideas.
   c. More activities, activity database.
   d. Quality environmental current events, graphs, and charts for use in 9th grade earth systems to teach ecology concepts.
   e. Resources listed by topic and grade.
   f. Make information applicable and relevant.
   g. Have a statewide committee locate and categorize curricula available for EE in a format that is user-friendly.
h. Free resources on the web that is grade and core specific for whole units. No workshops required!

i. Create a database of authentic “experiences” for teachers (to jump start their thinking processes.)

j. Provide teachers in all disciplines with EE curricula.

k. Online webinars demonstrating lessons.

l. Create age-appropriate lesson plans that are cross-curricular.

m. Online videos of conference speakers.

n. Online Region-based resource list of agencies, organizations, people, activities, lesson plans, etc. that are accessible to teachers.

o. Easy to access.

p. Increased accessibility for teachers: funding, time, opportunities.

q. Contacts and willingness from organizations.

r. What kind of informational technology should be available to teachers? I.e. web of science journal archives like the universities use.

7. Multi-stakeholder Buy-in
   a. How to educate parents, teachers, and administrators to become advocates for EE.
   b. How to create business allies as EE advocates – triple bottom line.
   c. How to engage citizens in democratic system.
   d. Build EE “community” (schools, business, homes, etc.) projects like parks.

8. Assessment of current capacity of EE
   a. Current environmental issues that face Utah.
   b. See where we are currently with environmental literacy to see where we need to be. Do we need to focus on watershed issues or do we need to look more at air quality?
   c. Identify specific tangible goals which can be reached. i.e. what does it mean to be environmentally literate?
   d. Understand current environmental literacy and values of public to support EE.
   e. Look toward other states and countries. What are they doing that has worked and hasn’t worked?

9. Miscellaneous
   a. Safety issues for EE.
   b. Step on toes.
   c. How do we involve all ethnicities in EE?