

The Earth Connection as a Learning Experience

A Preliminary Report

Earth Connection is a two-day "action conference" on community service and the environment for teams of high school-age youth and their advisors. The event has taken place on a Friday-Saturday in late winter since 1996 on the campus of the University of Massachusetts in Amherst.

Approximately 35 teams, each with 3 to 7 young people with an advisor, take part each year. They come from urban, suburban, and rural communities across the state. On average, three-quarters of the teams represent school-based clubs or classes; the others represent community-based groups.

This overview report, together with accompanying reports on Roundtables and Directions for Future Investigation, provide a preliminary assessment of the value of the Earth Connection conference as a learning experience. This program evaluation was a collaboration between William Miller, program evaluator, and Will Snyder, Earth Connection conference coordinator, for the UMass Extension 4-H Youth & Family Development Program.

Conference goals

The overall purpose of the conference is to provide inspiration and support to youth who want to address environmental issues in their own communities, and to their advisors who want help youth to learn through community service and environmental action projects.

The Earth Connection conference aims to achieve several outcomes. Our goal is that Massachusetts high school age youth - and the educators who work with them - will:

- * develop a broader vision of possibilities for community service learning around environmental concerns,
- * increase their knowledge of environmental issues, including improved understanding of both science and public policy,
- * increase their science research and citizenship skills, and their ability to apply these in their own communities,
- * become more familiar with environmental research, education, and practice at UMass Amherst, their public university, and
- * increase their commitment to taking action on behalf of their communities' environment.

While team advisors' professional development is a primary concern of the Earth Connection, this evaluation focused on the youth learning experience.

The Shape of the Conference

The conference is designed to offer a forum where participants can learn from each other as well as from experts. There are four structured learning components:

Workshops offer in-depth (90 minutes or 3 hours) exposure to citizen action skills, environmental science knowledge, and new perspectives on community and environment. Workshops are led by environmental agency staff, community environmental groups, UMass faculty and staff, and high school teams themselves. Each conference participant chooses four workshops to attend over the course of two days.

The UMass EnviroTrek is a chance for participants to stretch their legs and explore the campus on Friday afternoon, meeting people and seeing places that relate to environmental teaching, research, and practice. Groups of five youth or advisors, who have met each other for the first time only that morning, are given an itinerary and a map and must find their way around an unfamiliar campus.

The Roundtables session on Friday evening is an

opportunity for teams to share ideas, concerns, and experiences with each other. Each team is asked to come prepared to lead an informal discussion on an environmental topic of their own choice. Some teams report on their current projects; others introduce environmental assets and problems in their communities. Team advisors, who join the session at its midpoint, are asked to keep a low profile so students will continue to take leadership.

A Reflection/Planning session on the final afternoon offers teams a chance to reflect on the experience and think about how they will use the new knowledge and skills they have learned. At the 1999 conference teams were paired and asked to interview and present each other to the conference as a whole.

Evaluation procedure

For the first three years of the Earth Connection, we collected written comments about the value of the conference as a learning experience. This gave us a sense of the kinds of experiences young people were having, but provided little basis to generalize.

For the fourth year, we developed an instrument to allow us to quantify these experiences. We developed generic statements representing previous years' open-ended responses and asked all participants to rate their level of agreement or disagreement with these statements. We also looked at some of the key learning goals in the Massachusetts Common Core of Learning, the fundamental document of education reform in Massachusetts, and developed questions that would discover whether and what the conference was contributing to the goals of education reform.

Data on the youth experience at Earth Connection was gathered from both youth and advisors. Young people completed a confidential questionnaire at the close of the conference; 137 out of 147 turned one in. Advisors completed a questionnaire at the close of the conference and also received a second questionnaire to complete and return by mail within a week; 100% of the first were returned and 42% of the second were returned.

Several general question types were used to gather data. Many questions were posed in the form of

statements about the conference, with respondents indicating their level of agreement on a scale from 1 to 5 (from "strongly disagree" to "strongly agree" with some offering options of "not sure" or "does not apply"). Another set of questions required respondents to indicate how effectively various parts of the conference were on a scale from 1 to 3 (1 = not at all effective, 2 = somewhat effective, 3 = very effective). In some sections, participants were asked to check a series of statements for those that were true for them individually, then to identify those statements that represented experiences that were most significant for them. In addition, there were several open-ended response questions.

The evaluation asked for feedback on specific workshops, and EnviroTrek sites as well as general evaluation of those conference components. It focused particular attention on the roundtable experience, and also gathered feedback on the overall conference experience.

Workshops

Advisors and youth gave high ratings to the workshop experience. This was despite the fact that a winter storm caused cancellation of Friday workshops for the 1999 conference, effectively halving the workshop experience that had been planned.

In their observations of youth participation in workshops, more than two thirds of the advisors agreed or strongly agreed with the following statements:

"Young people had a chance to try a skill or encounter new ideas that they will be able to use" (73%),

"Young people appeared to listen with understanding and participated actively in the experience" (69%), and

"This workshop was a safe place for young people to ask questions, express opinions, and share their own knowledge with each other" (74%).

When comments were averaged for all workshops, 63% of advisors agreed that "The workshop offered resources (persons, web sites, places, organizations,

books, etc.) that will be helpful to young people."

Averages of youth ratings of individual workshops also demonstrated a successful overall experience with the workshop component of the conference. Majorities of youth participants agreed or strongly agreed with the statements

'This workshop was a good place for me to ask questions, express opinions, and share what I know" (59%)

'This workshop influenced how I think about the environment" (59%), and

'I tried out a skill that I will be able to use later on" (51%).

Workshop presentations appear to have been pitched at the right level for participants not only to understand but to make use of the information. 58% agreed that "I would like to know more about the ideas presented in this workshop." A majority 69%, disagreed that "It would be hard to explain what I learned in this workshop." 52% agreed that "I found out about a resource (a person, web site, place, organization, book, etc.) that will be helpful to me."

The UMass EnviroTrek

The EnviroTrek succeeded in its two main goals, to introduce conference participants to each other and to UMass. Over 84% of youth participants agreed or strongly agreed that "The EnviroTrek helped me get to know others at the conference." Over 90% agreed that "The EnviroTrek helped me learn about UMass." Based on their conversations with their teams, 53% of advisors rated EnviroTrek "very effective" as an introduction to UMass for their team members, and 73% rated it "very effective" as a chance for their teams to get to know others at the conference.

Youth participants rated EnviroTrek sites individually, and when these individual ratings of EnviroTrek sites were averaged for all 137 participants visiting 3 sites each, a generally positive picture of the event emerges. Overall, participants agreed or strongly agreed 73% of the time that "I would like to learn more about the topic

presented at this site" and 80% agreed that "This site showed me something important about an environmental question or issue." In a measure of the clarity of the presentations, 69% disagreed that "It would be hard to explain what I heard and saw here."

Advisors comments were generally positive on the EnviroTrek experience for their teams:

"Forced to mingle and communicate with strangers, they were happy to be worth of others' attention as they paid close attention to the other kids and to the UMass personnel. Big hit! Excellent strategy!"

"[The effectiveness of the event] depended on the dynamics of the groups - some did little communicating and others got to know something about people in their group."

"The students felt that the EnviroTrek was the best opportunity to learn new things. They really enjoyed walking about the campus and meeting the professors."

"The students would have liked a more in-depth tour of the campus and/or descriptions of environmental programs available."

Roundtables

Our analysis of the data indicates that the roundtable session provides a rich variety of significant learning experiences for a majority of conference participants.

The roundtable session's contribution to the conference as a whole takes several forms. Most important, roundtables offer a rich opportunity to practice communication skills. Second, they provide a challenging team experience. Third, the session provides the greatest opportunity at the conference for youth to interact meaningfully and to learn about each other's communities. And finally, the session provides inspiration to action, in the form both of specific project ideas and a general sense of what is possible.

Roundtable findings are presented in more depth in an accompanying report.

Overall Conference Experience

According to evaluations by both youth and their advisors, the conference appears to have been very successful in accomplishing several of its goals. However, questions remain.

To assess the conference experience as a whole, youth participants were asked to indicate their agreement or disagreement with a series of 18 statements that were based on the goals set forth for the conference. The survey included a "not sure" option to ensure that "agreement" was not overstated. Despite this, a majority of participants agreed or strongly agreed with all 18 statements. The five statements that received strongest agreement were:

'I met people from different communities with very different experiences from me" (82%),

'I encountered new scientific information about the environment" (80%),

'I learned about possible solutions to environmental problems that I hadn't known about before" (79%)

'I discovered some new things I can do right now to protect and improve the environment" (79%), and

'I became more interested in taking action in my community for the environment" (77%).

When asked what was most important about their Earth Connection experiences, participants once again indicated a wide variety of individual variation. However, two items were cited most often:

'I met people from different communities with very different experiences from me" and

'My team got better at working together."

Finally, more than three quarters of participants agreed or strongly agreed that

"As a result of the conference, I want to learn more about my community and its environment" (76%),

"I now have a better idea where I can find the help I will need to take action to improve my community's environment" (76%).

For more information, please contact:

Will Snyder
UMass Extension
Environmental Stewardship Education

Stockbridge Hall
Univrsity of Massachusetts
Amherst MA 01003-0099
413/545-3876 voice
413/545-6555 fax
wsnyder@umext.umass.edu

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Directions for Future Investigation

In our analysis of participant responses to the 1999 evaluation, several themes emerged that help to clarify our understanding of the learning that occurs at the Earth Connection conference, and also suggest questions for further investigation.

Thinking and Communication Skills.

Particularly in the roundtable session, young people were practicing a variety of thinking and communications skills that are noted explicitly in the Massachusetts Common Core of Learning as goals that every student should know and be able to do by the time they graduate, such as

speaking clearly, factually, and persuasively,

listening critically for information and understanding

organizing and presenting information from a variety of sources

Yet both youth and advisors noted the lack of such experiences in school. Are there ways that the roundtable experience might be made more a part of everyday learning?

Appreciation for Diversity. Young people attending the conference appeared to gain respect for the diversity of values, experiences, and cultures represented among them at the conference. Again, the Common Core of Learning states that all students should

Treat others with respect and understand the similarities and differences among people.

The event appears to provide a safe place to express differences, even for youth who have known each other only a few hours. What are the elements that promote this safety and respect? How can they be promoted beyond the conference?

Teamwork. Responses to questions relating to teamwork and team relationships merit further investigation. Young people felt their teamwork skills were improving, reporting that the second most important experience at Earth Connection was that "My team got better at working together." Advisors also noted the value of the conference as a time for their young people to get better at working together as a team. They ranked this highly as a goal of their own.

However, statements such as "I learned something new about the skills and knowledge of others on my team" and "I have a better idea of what environmental concerns others on my team care most about" received significantly and consistently lower rankings than other statements about the conference experience. It is interesting that these statements about improved teamwork are made about a conference that places a heavy emphasis on splitting teams up for major components of the event, and getting youth to interact with young people from other communities. Even the two main team-oriented experiences at the conference, roundtables and the reflection/planning session, require teams to work together but focus the team's attention on others at the conference. Could it be that teams are best built by focusing on tasks to be done (presenting a roundtable, interviewing another team), not self-consciously on the team or on each other?

A related question is the place of the advisor in the team. Earth Connection's goal is to promote partnerships between adults and youth, for youth in particular to experience caring, supportive advising. The conference is designed to allow students and teachers to get to each other in a less formal, more egalitarian setting than most classrooms afford. However, both advisors and teams reported that having teams get to know their advisors' skills, knowledge, and values in a different way was one of the least important parts of the conference experience. Is this not important, or just not an important part of the conference?

If improved teamwork is a value for those attending the conference, are there ways that Earth Connection could do an even better job?

Personal, Social, & Civic Responsibility. The conference appears to offer young people a major opportunity for considering their roles as neighbors and citizens in a democratic society, particularly in relation to environmental issues. In-depth workshops, roundtable discussions, and the reflection/planning exercise at the close of the conference are all intended to contribute to the Common Core of Learning's goal that all students should

Analyze, develop, and act on informed opinions about current economic, environmental, political, and social issues affecting Massachusetts, the United States, and the world.

Of course, a two-day conference is a very minor event in the course of a young person's education. How could two days out of 12 years have an impact? One element of the conference that may be an important factor in individuals' learning in this area is the presence of role models and real life case studies. Workshop leaders, EnviroTrek site hosts, UMass student volunteers, the advisors who accompany them, and other youth participants all provide role models for the young people who attend. All have made personal and professional choices to act on behalf of their communities and the environment. How important the experience of interacting with these people to the development of personal, social, and civic responsibility in participants?

Contribution to Lifelong Learning. The Common Core of Learning stresses that if students are to succeed in the 21st century,

They must recognize the importance of education as a lifelong effort.

Perhaps the most enduring question in education is how young people will gain not only the knowledge and skills, but the motivation to continue their own learning through life. One major contribution that an event like Earth Connection can offer is *practice* for lifelong learning. The conference assumes that participants are concerned for the welfare of their communities and the environment, and that they have an internal motivation to learn. The event provides a broad field of learning opportunities for participants to explore. Each participant makes his or her own "curriculum" decisions. Particularly in

the roundtable and reflection/planning sessions, youth are expected to be active participants in learning, not passive consumers.

Of course, a two day event can only provide a taste of new knowledge and skills; the real learning requires time and self-discipline beyond the conference. But are there things we learn from the success of the conference in drawing out youth motivations for learning? How can we foster this motivation when youth return home?

Earth Connection as a Learning Experience

Focus on the Roundtables

In our analysis of participant responses to the Earth Connection evaluations in previous years, it became clear that the Friday evening roundtable session provides an extremely rich variety of significant learning experiences for a majority of conference participants.

To learn more about the Roundtable experience, we asked all 1999 youth participants to indicate whether, and to what extent, a series of 15 statements drawn from previous years' evaluations reflected their own experiences. Responses reported here represent over 93% of youth participants.

We also asked advisors for their perceptions of the youth roundtable experience, based on their conversations with the team after the conference. 37% of the advisors completed this part of the survey.

Several generalizations can be made with some confidence:

The scientific/factual content of the discussions was high. 75% of youth indicated that they had "learned some new scientific facts about an environmental issue that I hadn't known about before," and by an 84% to 7% margin they agreed that "I was able to get satisfying answers to the questions I asked." We also asked advisors for their assessment of the content of the discussions. By 73% to 27%, they agreed that "The discussions I listened in on were free of major conceptual or factual inaccuracies," and 60% even agreed that they themselves had "gained some valuable science information" from listening in.

Practice in a variety of thinking and communication skills is probably the most important learning experience of the session. Roundtable discussions, as practiced at Earth Connection, offer an opportunity for sophisticated forms of communication, involving communications

skills that are noted explicitly in the Massachusetts Common Core of Learning, such as

- speaking clearly, factually, and persuasively,**
- listening critically for information and understanding, and**
- organizing and presenting information from a variety of sources.**

93% of youth reported that "I was able to explain our team's roundtable topic to someone from another team" and 87% of reporting advisors echoed that all members of their team had felt able to explain their roundtable topic effectively.

72% of youth reported that "I was able to explain my opinion to another team about their roundtable topic." 64% of the responding advisors agreed that the session had been "very effective" in providing a forum that encouraged young people to express opinions clearly and 60% found it "very effective" at encouraging youth to ask meaningful questions.

While the overwhelming experience was that of knowing something and being able to share it effectively, youth also appeared able to handle lack of knowledge well. As might be expected in such freewheeling discussions, participants sometimes encountered situations where they did not have the facility with the topic that they would have liked. 33% indicated that "Someone asked my team a question that we weren't able to answer," and 50% agreed that "I sometimes didn't know enough to ask good questions." However, by a majority of 57% to 20%, participants agreed that "It felt okay to say 'I don't know' when someone asked a question I couldn't answer." And in what could be considered a very positive outcome, 33% agreed that "After the roundtable experience, I realize I need to learn more about our topic."

Youth also found themselves able to grapple effectively with differences of opinion. While 75% noted that they had "talked with someone and we found that we had the same concern," 41% reported that they had "talked with someone and we found that we had differing opinions about an issue." By an 82% to 8% majority, participants agreed that "People respected each other even when they had different opinions," and 37% indicated that "I may change my opinion about an environmental question based on what I learned." The only

exception to this positive experience appeared to be one occasion when an advisor entered the discussion on one side.

A majority of responding advisors found that the session had been "very effective" in providing a forum that encouraged young people to: express opinions clearly (64%), clarify their own values (64%), listen with empathy (53%), and respectfully disagree (57%).

The chance to interact meaningfully with young people from other communities was valued highly by participants. 89% of youth reported that "I found out something that gave me a better understanding of another community in Massachusetts," and that this was one of the most significant learning experiences of the session. Advisors tended to agree, with 80% indicating that all their team members had developed an appreciation of other Massachusetts communities, and that this was one of the most significant aspects of the session.

The roundtables also provided some inspiration for action. 72% reported seeing "an example of a project I would like to be involved in," and 77% "got a new idea about something my team could do for our community." This second statement ranked second only to "I had an interesting conversation about the environment with someone I didn't know before" in its significance to large numbers of participants (51 out of 137 participants).

Our sense has been that the roundtable is an unusual experience for these young people in their education. This was borne out by responses from both advisors and participants. By 59% to 33%, participants *disagreed* with the statement "I have a lot of opportunities to have discussions like this with people in my school." Every one of the 15 advisors participating in this part of the survey *disagreed* with the statement "The young people I work with have many opportunities like this to talk about environmental issues and concerns with others in school."

At the same time, both groups clearly wanted more of this kind of experience, with 78% of youth participants agreeing or strongly agreeing that "I would like to have more opportunities to have discussions like this" and 80% of advisors in the post conference survey indicating strong agreement

that "I would like the young people I work with to have more opportunities like this."

Comments on the roundtables by individual youth and advisors give some sense of the diversity of the learning experiences. From advisors:

Our team members had a serious disagreement with another team about hunting as a method of wildlife management. They were successful in clarifying their own values but not in seeing the other team's point of view.

Students talked a lot about the disagreements they had with other students/advisors. I think they felt pleased they knew enough about their topic to argue their points.

They learned to speak slowly, point to visuals as they explained them, and to ask their observers questions to make sure they knew what they were trying to explain.

Our students went to these with empathy and weren't looking for facts vs. opinion but rather encouraging presentations.

From students:

Learning about problems in different communities made me see that problems can happen everywhere and that worries me.

Usually I am shy and don't talk with people I don't know but here I found myself getting involved in others' roundtables.

My group is trying to bring recycling back to our school, and I found a group that was trying to do the same. We were able to help each other out.

Even though I totally disagreed with one person, I could see where his opinion came from.

One group came to our table and they were really interested in what we do. I was so amazed there were people who actually cared. The energy, the enthusiasm was overwhelming. I want to do this again.

Being able to interact with people we've never met but share a common interest in I think was my favorite part. We get to hear others' points of view and also about their community and problems within that community.

It was really interesting to see how different groups attacked different issues that they were faced with. We gave out a lot of suggestions, and got a lot back as well.

[The best thing that happened was] expressing anger and being able to give real reasonable ways to use the anger for good.

[I was uncomfortable when] some advisors get way too into it and ask questions too much. They need to stay back.

[The best thing that happened was] how everyone really was very respectful of other people's opinions and projects. I didn't hear anyone making fun of anyone else which is great.