

Communication across continents: Integrating local and global understanding in ESD

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Abstract

One of the ESD goals is the development of awareness and understanding of local and global environmental issues and cultures. This paper investigates how online communication among youth teams from two countries contributed to achievement of this goal. In fall 2006, two youth groups in the USA and two school classrooms in Russia implemented the Garden Mosaics program. In addition to their local investigations, youth used blogs for learning from each other about environmental and cultural issues (<http://gm-baltimore-tomsk.blogspot.com>; <http://gm-bronx-tomsk.blogspot.com>). They learned about the environment in another country and developed skills to present local environmental information.

Keywords: Education for sustainable development, Internet, youth, international exchange, global learning

INTRODUCTION

Whereas education scholars have defined a broad agenda for education for sustainable development (ESD), and have suggested that its content be adapted for different contexts (Bonnett, 1999; Bhandari and Abe, 2003; Lotz-Sisitka, 2004; Bory-Adams, 2006) and that it needs continual re-conceptualisation (Fien and Tilbury, 2002), they also have set forth several common goals for ESD-aligned programs (McKeown, 2002; McKeown and Hopkins, 2003; Fadeeva, 2007). For example, ESD programs should develop in youth:

- 1) **Knowledge** about local and global environment, society and economics;
- 2) **Skills**, such as critical and system thinking, creativity, visioning, communication skills, ability to conduct inquiry activities and participate in local affairs;
- 3) **Values** and understanding of their communities, sustainability, intergenerational respect and appreciation of diversity (Hopkins and McKeown, 2002; Cloud, 2005).

This paper argues that online communication with peers from other countries can help youth achieve some of aforementioned ESD learning outcomes.

A number of education programs, including iEARN, Young Minds, and Global Virtual School for Sustainable Development, connect youth from classrooms in different countries via the Internet to help them collaboratively explore and share knowledge about science, community, environment, health, or other issues. Some of the goals of these programs are teaching youth about science, developing their computer skills, and engaging them in cross-cultural collaboration and local actions. (Rennebohm-Franz, 1996; Jobson, 2001; Simovska and Jensen, 2003); these goals are clearly parallel to some of the ESD goals mentioned above.

At the same time, many education programs provide local and global environmental and sustainability curricula, but do not include international collaboration activities via the Internet. This creates a need to investigate whether including an online exchange in these educational programs can help facilitate sustainability education. More specifically, we address the following questions:

- How can online communication among youth from different countries participating in similar educational activities help them to learn about local and global environmental issues, and thus achieve some of the ESD learning goals?
- What skills and values do youth gain from online communications with foreign youth?

- How can educational programs from different countries benefit from linking their educational programs?

This research project was conducted with the participants of the Cornell University Garden Mosaics (<http://www.gardenmosaics.org>), an outreach education program that engages urban youth in learning about environmental science in community, intergenerational and multicultural contexts. Youth conduct inquiry activities in community gardens and in their neighborhoods, and then report their findings to databases on the Garden Mosaics website. Since 2001 this program has been implemented in multiple informal and after-school education programs in the USA, Canada, South Africa, and Russia.

PARTICIPANTS AND METHODS

Education programs in the USA and Russia

To determine if young people could benefit from communication from foreign peers, Garden Mosaics conducted computer-mediated communications among 10-16 year-old youth from two educational programs in the USA (10 young people in the Bronx and 10 in Baltimore) and two programs in Russia (8 and 10 youth, both programs in Tomsk). The Russian teams were part of after-school programs in public schools, and the American teams were from community-based educational programs, one of them targeting Latino youth and the other African-American youth. During fall 2006, all four teams implemented the Garden Mosaics investigations, including the Gardener Story, Neighborhood Exploration and Community Garden Inventory.

Communication via blogs

Web blog technology was used to connect youth from the USA and Russia while they participated in the Garden Mosaics activities in their countries in October-November 2006 (<http://gm-bronx-tomsk.blogspot.com>, <http://gm-baltimore-tomsk.blogspot.com>). The goals of the online exchange were help youth to: 1) learn about local and foreign urban environmental issues and culture, 2) develop communication skills, and 3) develop an appreciation of their own and other cultures. A plan for the online communication requiring at least one weekly posting about the youth teams and their Garden Mosaics activities was sent to the participating educational programs. During the six-week period that they participated in the Garden Mosaics activities, the youth reported their findings on the blog and on the Garden

Mosaics *i-m-science* online database, and sent each other questions and comments via the blog. Youth used the blog messages to describe their teams, cities, urban green spaces, and inquiry activities. English was the language of communication; the Russian youth had studied English in school. The blog facilitation took about 50 hours, which included developing the blog schedule, instructing the American and Russian educators how to use it, and helping educators and youth to post messages.

Methods

The following methods were used to evaluate the youth and educational program outcomes in terms of achieving ESD learning goals:

- *Participatory observations.* Blog facilitator (Alexey Kudryavtsev) visited schools in Tomsk to help youth and teachers learn about the Garden Mosaics learning activities and about blog technology. He then observed these young people when they participated in some of Garden Mosaics activities and when they posted messages on the blog in computer classes.
- *Document review.* Content of messages on the blog was an additional source of information to evaluate youth learning.
- *Surveys.* Russian and American youth and educators were asked questions about learning outcomes following the online communication. All participating Russian youth (21) and the Bronx youth (10) returned surveys; surveys from the Baltimore program (10) were not received. Four educators in Russia and one educator in the Bronx filled in educator surveys; the survey from the Baltimore educator was not received.

RESULTS

Including the blog in Garden Mosaics programs

American educators already had experience with Garden Mosaics youth activities, and had to learn only how to incorporate the blog into their programs. Russian educators were implementing this program for the first time, so in addition to learning how to use the blog they also had to learn about the Garden Mosaics activities. During implementation of the activities, the Russian educators conducted computer sessions with young people one to two times a week to help them write up their experiences, post texts and images on the blog, and communicate with peers overseas. The Russian teachers had minimal computer skills, so

some computer savvy young people helped them post educator messages. One of two Russian schools had limited access to computers and the Internet, which significantly impeded their participation in the blog. American educators were more computer savvy, they helped their program participants to post messages on the blog, and their programs had unlimited access to the Internet. After this project all educators said that the schedule was quite tight for both American and Russian youth, who were asked to conduct at least two or three types of the Garden Mosaics investigations within six weeks.

Outcomes in Russian schools

Team work. Collaborative work was an important outcome itself because youth in most Russian schools do not offer many opportunities for group projects in school or after-school settings. Educators in both Russian schools reported that computer activities, such as blogging and posting results of investigations on the *i-m-science* database, helped them to facilitate collaboration among youth of different ages (upper-middle and high school) because the activities, such as writing messages about their investigations, selecting images, posting messages and giving feedback, required division of tasks and coordination,. The Russian educators also mentioned that use of computer technologies helped to engage some young people who otherwise would not be willing to participate in environmental education projects.

International learning. Russian youth demonstrated interest in environmental issues abroad and were surprised that American youth developed a such a strong sense of ownership of their communities: “*People in America care about their environment and culture*”; “*I liked to learn that American kids take care of their environment*”. Russian youth also were very surprised to learn from the blog about the unsafe urban environment in Baltimore: “*I learned that because of high level of crime it is dangerous to walk in the city [Baltimore], and gardens are the only place where people can relax and stay safe*”. At the end of the blogging period about half of the Russian young people mentioned orally that now they better understand people from a different country.

Communication. Nearly all of 21 Russian youth had a chance to learn how to present their information for an international audience and how to post messages on the blog. Four of them, however, said that they wanted to experience more personal communication with the American youth, i.e., send messages individually to different youth. The same youth and two Russian educators also expressed willingness to participate in real-time video conferencing with foreign teams. Although one of the American educators also suggested trying to use

voice conferencing among the USA and Russian teams, it was not possible because of slow internet connection in Russian schools at the time of this project.

Outcomes in the USA educational programs

Because the American educators had conducted Garden Mosaics previously, they were able to compare this program with and without the online exchange. One of educators mentioned in personal communication that the blog had been very inspirational for youth because they had a chance to reflect about their communities, share information about their environmental activities, and answer questions from foreign peers.

Connecting with the outside communities. Although both American education programs were located in vibrant and ethnically diverse communities, the educators were concerned about the limited opportunities their youth have to connect with the outside world: *“The more my youth can communicate with people beyond their local environment it will help them develop a global perspective. My goal is to break down the narrow outlooks that so many African American children have. Most urban African American children are locked into a ghetto universe of hopelessness and despair.”* The other American educator mentioned that without the program their youth would not have had an opportunity to communicate with youth from different countries, and present information about their own cultures and environment: *“They learned about another reality, whose existence they would have never dreamed of. Also they had a great time learning more about their own reality and having fun at the same time”.*

International learning. Similar to the Russian students, the US youth reported that they enjoyed communication with their foreign peers; it was the first experience of this kind for all of them. Posts on the blog and answers in the survey indicated that the Bronx youth learned about foreign social issues: *“They also have immigrants the same as us. Maybe immigration comes from different countries, but still that is a topic that we share”.* Learning about other environment was also meaningful for youth: *“This blog has shown us [...] an environment that we did not know”;* *“We thought that they would have unknown vegetables and fruits. They might, but still we share a considerable common variety of them”.* Similar to Russians, the Bronx youth mentioned that they achieved better understanding of foreign culture: *“At the end of this blog we realized that we share more common things than differences”;* *“Even though we are from two different countries and have different customs we are united by our desire of having a better world where to live”.*

DISCUSSION AND CONCLUSION

The purpose of this study was to investigate how online communication among youth teams from different environmental educational programs addresses ESD learning goals. Results of this research suggest that educational programs that include international collaboration using the Internet give youth from different countries the opportunity and encouragement to embrace and honor common experiences and perspectives (Rennebohm-Franz, 1996), and it also has contributed to learning about global environmental and social issues, which are integral to ESD (Teaching and learning... 2006). Besides making connections beyond their neighborhoods, youth presented information about their environment for an international audience, which forced them to take a new look at their own communities. In particular, communication via the blog encouraged youth to search and integrate knowledge about history, environment, economy, and people of their communities, which represents some of the core content of ESD (Corneya and Reid, 2007).

Some papers indicate that collaboration in virtual groups may have significant potential for co-construction of knowledge (Gabriel, 2004), which is embraced by ESD. However, in this project the short period of computer-mediated communication (only six weeks) and the simple blog environment (non-threaded conversations) did not provide a good opportunity for in-depth online collaboration among international teams. Nevertheless, youth had an experience of working in teams within their educational programs; each of them worked on different Garden Mosaics investigations, and then had to work together to merge their information from different activities for uploading on the blog.

Another question of interest was how online technologies can be incorporated in ESD programs. The youth used the Internet when they looked for online educational materials (*Science Pages*) in the beginning of the program, and when they reported results of their investigations at the end of program. Online communication in this project forced youth to use computers many times during the course of the program, and it helped them to develop communication skills, another important goal of ESD (UNEP's Environmental... 2005). The choice of blog technology for communication among teams was informed by the cost of its use (it was free), intuitive and “fun” design, and ability to post images in bodies of messages, although it did not support threaded conversations. Many other kinds of creative asynchronous (e.g., Internet forum) and synchronous communication technologies (e.g. chat,

audio and video conferencing) are free and could be incorporated into environmental education programs. Educational programs can also join established networks (like iEARN), which require a membership fee but provide benefits including allowing groups to easily find peers for collaboration in different parts of the world. The role of other technologies (e.g., wiki and Google My Maps) that can facilitate collaborative learning among youth from different educational programs is a subject for future investigation.

Results of this research indicate that computer-mediated international exchanges, when combined with local hands-on investigations and other activities, may contribute to youth understanding of their own and foreign social and ecological communities. Whereas the local investigations, including posting the results to the blog, facilitated collaborative learning among youth at a single site, it appears that the blog did not promote collaborative learning or co-construction of knowledge across sites in different countries. Future programs using more interactive technologies may facilitate such learning and collaboration. As educators look at ways to implement ESD, attention should be paid to using computer-mediated communications as a means to address ESD goals related to knowledge, skills, and values, and as a way to promote global understanding without sacrificing place-based education or learning about local biological and cultural diversity.

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