



RiverXchange: A Hybrid Project Takes to the (Internet) Highway

Whether we like it or not, “social networking” websites like *Facebook* -- which allow users to communicate with each other via a free “web log” (*a.k.a.* blog) are fundamentally changing the way today’s young people meet, who they meet, and how they interact. The era of putting an actual pencil to paper may be long gone for this new generation, but their desire to connect with each other is as strong as ever. What this means for environmental educators is that we can and should take advantage of these new communication tools to help teachers and students get excited about learning.

For example, it appears that increasing numbers of technologically savvy teachers are creating their own classroom blogs with the requirement that students must write about what they are learning. In addition, students may learn how to upload graphics, photos, video clips, voice clips and podcasts to their blog. The result is that students are provided with a very creative means of delivering a research project while also building important organizational, computer and communication skills.

However, since most blogs are public, it means that virtually anyone in the world can log on to the site to see and comment on the writer or the material. In this case, parents’ and school administrators’ concerns about security have been completely justifiable. Fortunately, over the past few years we have seen more safe web-based communication tools designed with teachers in mind which virtually eliminate such security issues. But security issues aside, another disadvantage of any web-based communication tool like a blog or a website is *traffic*. The question then becomes whether or not anyone other than a close relative or friend is even reading the material. Is there an audience out there? If not, is this tool as useful as it can be?

A Hybrid Project is Launched

Enter **RiverXchange**, an environmental education outreach project that integrates something old with something new. Think ‘*pen pal meets Facebook.*’ The result is a hybrid project described by project coordinators as “high tech pen pals.” Through RiverXchange, specific fourth grade classes have been identified and partnered with each other in a one-to-one relationship. All partnered classes then follow the same curriculum at approximately the same time during the school year while routinely sharing what they are learning via a private web-based technology known as a “wiki” (more about the wiki concept in a few paragraphs).

This year, 19 fourth grade classes from Albuquerque and Rio Rancho, New Mexico, have been partnered with 19 classes from the U.S., Australia and Japan. From February through May 2009, all participants will follow the same curriculum which teaches students about water resources by studying their own local river ecosystems. The curriculum is divided into three units: Understanding a Watershed; Human Connections to the River; and River Ecosystem. Students will participate in many hands-on activities as well as take a field trip to the local river. Their job as a class is to share what they are



learning with their new pen pal class every week or two via a private class wiki. In other words, not only do students get to share their own experiences, they get to ask questions and learn from someone who lives really far away. We have an audience! Teachers feel this kind of personal connection is a big deal for fourth graders -- many of whom have never traveled beyond their city limits.

Why a Wiki?

The word “wiki” is a Hawaiian word meaning “fast,” but it also refers to one or more web pages that can be modified by anyone who has permission to access it. A well known public wiki is the on-line encyclopedia called *Wikipedia*. A wiki enables users to edit any page or to create new pages within the wiki web site. In other words, a wiki enables documents to be written collaboratively, which is an attractive feature for internal communication in businesses.

The good news for teachers is that a wiki can be set up as private or public, and teachers can select who gets to edit and/or simply view the site. We chose PBwiki as our web-based communication network because it offers the option of complete privacy, it is free, it is easy to use, there is good technical support, and it provides a lot of storage space (an important consideration when uploading graphics, photos and video clips).

Each of our RiverXchange teachers will have access to two wikis: one is their class wiki and the other is the RiverXchange teacher wiki. For the class wiki, each of the two partner classes will be able to create and modify the site as often as they desire. As project coordinators, we can also view and modify any material, if necessary. The RiverXchange teacher wiki was created to serve as the chief communication tool between project coordinators and participating teachers. It contains important documents, instructions, curriculum and hands-on activities. It saves coordinators a lot of effort (compared to emailing) because teachers are automatically notified when we make changes to the site. Teachers are limited to viewing the information and posting comments on this site because we have designated them as “readers” instead of “writers.” As administrators, we can easily change this designation.

Applied Teacher Professional Development: *The Proof is in the Wiki*

Environmental educators who conduct teacher professional development workshops are well aware of the challenges associated with inspiring teachers to actually implement in the classroom something they learned at a workshop, especially if the information is not considered by the teachers to be specifically required as part of the standards and benchmarks. Do we ever really know if any knowledge about our subject area was imparted to students? If so, what was implemented? If not, how can we inspire teachers to do this?

With RiverXchange, teachers will start the project with some exposure to Project WET or other water-related education because we made this a pre-requisite for participation. Initially, we intended to limit participation to the first 10 qualified teachers; however, we



identified at least 19 teachers throughout the U.S. and world who were willing to follow our curriculum, agreed to take their students on a field trip to their local river or tributary and possessed the educational background. This meant we could accept all 19 if we could identify more New Mexico teachers who were interested in participating.

Here in New Mexico, few of our participating fourth grade teachers came to the table with any water-related training, and virtually none of them could afford to take their students on a field trip to the river. In addition, most said they would not be able to attend the Project WET workshop unless we could pay for substitute teachers. So for New Mexico teachers, all aspects of this project (including paying for substitute teachers, field trip bus transportation, workshop materials and on-going technical support) are provided free of charge. As project coordinators, the opportunity to work with so many partnerships was exciting as long as we could afford to do so.

RiverXchange officially kicked off on February 10 when our New Mexico teachers attended our Project WET teacher professional development workshop to learn how to do all hands-on activities, and learn how to create and manage their class wiki. At that workshop, New Mexico teachers invited their partner class onto their wiki that day. Five hands-on activities come from the Project WET *Curriculum & Activity Guide*, three come from the Project WET *Discover a Watershed/Watershed Manager's* guide, and two are from the *Rio Grande Bosque Education Guide*, published by the New Mexico Museum of Natural History and the Rio Grande Nature Center/State Parks. In addition, teachers were introduced to several guest speakers who are available to visit classrooms to teach students about their drinking water, wastewater, historic uses of the river and the field trip to the Rio Grande River/Rio Grande Nature Center.

One advantage of RiverXchange is that the proof of a teacher implementing all or some portion of our curriculum will be in their class wiki. As coordinators, we will have access to all class wikis and will be able monitor what is going on. However, we realize that while we have asked all teachers to follow the curriculum, we cannot make them do it nor do we expect everything to go perfectly. We have presented the project as an opportunity for teachers to integrate water resources topics while simultaneously improving their students' confidence and skills in communication, organization, writing, geography, math, history, science and computer technology. We hope the RiverXchange curriculum easily integrates into a teacher's routine, especially since all fourth grade students must go to a computer lab every week or two.

Through RiverXchange, students examine many aspects of the river in their own back yard and take pride in sharing their knowledge of their local ecosystem. RiverXchange gives these students the unique opportunity to see and hear each other, ask questions, and share personal experiences about a distant place. Students gain a broader understanding of the importance of a river to human life because they are learning from their peers about another river ecosystem and comparing it with their own. Our hope is that students and teachers are inspired to protect their own little watery corner of Plant Earth.



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New Mexico Water Conservation Alliance
<http://wrri.nmsu.edu/wrdis/nmwca/alliance.html>

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