



PLT Schools – Models for Integrating EE into District Curricula

Clear Creek ISD

McWhirter Elementary is a Professional Development Site for University of Houston Clear Lake pre-service students. Dr. Pam Christol and Dr. Brenda Weiser have trained all of the school's K-5 teachers. Because it also offers a bilingual program for CCISD in conjunction with a head start program, they incorporated use of the Spanish student pages in teacher training. PLT activities are used to integrate science into other subject areas for pre-service teachers doing internships there.

At Seabrook Intermediate approximately 75% of the teachers in all subjects, have been trained in PLT. The focus of these trainings has been using PLT to meet continuing education requirements for Gifted/Talented certification. Project Learning Tree activities make it easy for teachers to differentiate curriculum to meet the social and intellectual needs of G/T learners. In addition, all of the science teachers except three have been trained in PLT's new curriculum, Energy & Society. Energy & Society activities have been utilized within the science department to teach physical science concepts.

Clear Creek ISD professional development has been provided and funded by PLT in the City program at Environmental Institute of Houston. Resources have not been allocated at this time for assessing frequency of use or impact on student performance. Teachers have been encouraged to use PLT as they deem appropriate.



Frisco ISD

In comparison, Frisco ISD's Elementary Science Coordinator, Melanie Cornelius, has designed a forestry unit as part of the 2nd, 4th and 5th grade science curriculum. (Frisco ISD has approximately 8000 elementary-aged students speaking 35 different languages.) In 2nd grade, students will compare/contrast coniferous and deciduous forests. 4th graders will study how trees are used and forests are managed; special emphasis will be placed on the plants of the forest. 5th graders will study forests in depth with some time devoted to social studies components like geography and economics. Melanie has recommended specific PLT activities for teachers to use in each unit. The first PLT workshop was held in June for 2nd grade teachers and was funded through a Title II grant. Staff at Frisco ISD received training this summer to be certified PLT Facilitators and will continue training all elementary science teachers in the district throughout this year. Assessment of PLT's impact on student performance is measured qualitatively by the district and is ongoing. Melanie writes, "Next summer our new Collin County Adventure Camp will open (like Sky Ranch) so I hope to get some sponsors and do an overnight workshop, we'll see!"

Marble Falls ISD

Linda Angelosante and Margaret Schelde attended Teachers' Conservation Institute, Phase I with their principal in 2003 then returned for Phase II this past summer. TCI is a week-long professional development opportunity hosted by the Texas Forestry Association sponsored by the Cain Foundation. Linda explains how they used PLT with the students in their predominantly poor neighborhood – "Last year Highland Lakes Elementary utilized PLT activities to their fullest. Since 2001, our students planned and created a 1/3-mile nature trail that includes a cacti garden and a butterfly garden. It was our objective to keep the trail in its native state along with bringing back some native trees and bushes to this area. With the help of LCRA, we planted over 40 trees and laid a drip line to help them survive our hot summers. While walking our trail you will see signs of wildlife all around you! Our high school built a chimney swift tower to bring back the chimney swift, and to our delight we had signs of swifts nesting. You can also find bat and birdhouses on your walk. Venture a little off the trail and you will find deer bedding, animal skeleton, and a turkey nest with the remains of eggs.

Because of our diversity of trees, Project LIFE (Leading Investigators For the Environment, a special after-school program) studied trees and the lumber industry. Third through fifth graders know parts and functions of the leaf and can identify any tree on our campus by looking at its leaf. Those that mastered their knowledge of trees formed a club -The Dendrologist Club. Problems like the effects of pollution and urbanization on wildlife were also studied.

On our trail there are 2 marshes. This year we plan to develop this area and study the ecosystem of a marsh. Our fifth grade students will learn about the composition of soils and the water. We have a very exciting program. Our main goal this summer is to write a curriculum for grades 3-5th so that each grade will study a specific environmental topic."

Birdville ISD

Student performance on the Reading TAKS (Texas Assessment of Knowledge and Skills) is the driving force for many teachers' classroom activities in the spring. Tricia Henderson of Watauga Elementary, a former TCI participant and a 2004 Fearless Leader, has found a creative way to use her science instruction and PLT to build reading comprehension. Children were excited to participate in a few rounds of *Birds and Worms*, PLT Activity #25, to build on their understanding of adaptations and wildlife habitats, subjects they'd read about in their science textbooks.

They continued to sharpen their reading comprehension skills in science by reading about trees. Students culminated their reading experiences by making tree 'vests and headbands' as described in PLT activity #62, *To Be a Tree*. They shared what they had learned through a school parade, visiting their first grade book buddies who had started a tree unit and the other third grade classes. Now everyone wants to be a tree!

Tricia's students continued their unit on trees with other PLT activities, including Tree Factory and Every Tree for Itself. Her strategy has already paid off with all but 2 students with special needs passing the Reading TAKS last year.

Cy-Fair ISD

The integration of PLT activities into Cy-Fair ISD's curriculum began as two separate efforts. In 2003, Denise Martin, a Science Helping and Resource Teacher, became a PLT Facilitator through training at the Teacher's Conservation Institute. Denise began providing forestry and other environmental resources to the teachers she worked with in the district.

At the same time, Brenda Weiser from PLT in the City program began working with Barbara Cobaugh, Cy-Fair's Science Curriculum Director. A team of educators were assigned to examine Cy-Fair's

science curriculum and identify key units where PLT activities would be appropriate. This was followed with PLT training during Cy-Fair's district in-service for all science teachers in grades 2 and 4. PLT was introduced in a 3-hour session in August; teachers were required to use 3 activities with their students in the fall; and a follow-up session to discuss the impacts of the activities and to provide training in related science content was scheduled in January.

Teachers found the activities to be so successful that Cy-Fair expanded environmental education offerings for in-service in 2004. First grade teachers received training in PLT; third and fourth grade teachers participated in Project WILD workshops; and fifth grade teachers will receive training in the Wonders of Wetlands and PLT's Energy & Society.

Since 2003, PLT has trained key CFISD Science and Math staff as facilitators. They will support the teachers in their efforts to apply PLT in the classroom and train any science teachers who missed in-service development.

Texas Parks & Wildlife has contracted a researcher from Stephen F. Austin State University to assess the impact of this professional development on the student's learning. Dozens of trained volunteer facilitators and a variety of funding sources have made it possible to provide environmental education materials to all 1-5th grade science teachers at the 4th largest school district in Texas.