



KENTUCKY CENTER FOR
MATHEMATICS

Good News from KCM Coaching 2007-2008

Coaching Facilitates Teaching Outside the Box

By Patty Boyd, First Year Math Coach
& Laura Plante, Assistant Director of Coaching

The result of a partnership between Patty Boyd, math coach at Fairdale High School in Jefferson County, and mathematics teacher Andrew Gray recently caught the attention of [*Louisville Magazine*](#).

An article in the March 2008 issue entitled “Learning Outside the Box” describes the efforts of Gray and other Jefferson County school teachers to integrate environmental education into math and science classes. Fairdale High School’s new Outdoor Education Center is taking shape through the work of students in Gray’s geometry class.

In a competition between last year’s students, a design for a garden with a hexagonal walkway, polygon-shaped plant beds, and different kinds of symmetry was selected. As this year’s students stand before the plant beds and walkway that have since been constructed, they are considering new questions: “How much weed-control fabric will be needed to cover the plant beds, if two layers are required?” and “How should

the fabric be cut to fit the polygon-shaped beds?”

Gray says that he and Boyd worked together to create the lessons for Gray’s students. “Patty and I have had time, because of the coaching program, to really develop meaningful lessons and structure for our outdoor classroom,” Gray said. “We have collaborated through the development of outdoor expectations for our students. She has also had the time to help really craft the hands-on lessons that are so important to learning for students. Her feedback has helped me and others really bring out the best in a contextual and relevant learning environment.”

Boyd coached Gray over a two-year period, posing questions to assist Gray in reflecting on his ideas for the Center. “He frequently asked me, ‘Patty, what do you think?’” she said. “And I turned the question around every time.”

Boyd drew on her Cognitive CoachingSM training to craft questions aimed at eliciting high levels of craftsmanship and efficacy during the planning process and into the implementation phase. “It has been a journey,” she said. “One that is by no means over.”

From Boyd’s perspective as a coach, the establishment of the Outdoor Education Center as a living context for students to study mathematics and the environment is a great achievement, but more has been achieved. “What I see is that Andrew is much more confident in his ability to create lessons and motivate students,” she said.

