Pond, Garden, World: A Middle School Science and Stewardship Project

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Abstract
Problem-Based Learning (PBL) pedagogy unites grades 6-8 science curriculum at Renfroe Middle School (RMS).

Introduction
Renfroe Middle School joined in partnership with Emory University to:
1. Establish PBL as the main pedagogy for teaching science at RMS.
2. Help the students create a culture of stewardship of the environment.
3. Establish ties to the community.
4. Develop a mechanism to sustain the stewardship/community service culture.

We predict that the PBL model can effectively teach students the Georgia state Quality Core Curriculum science objectives, while improving their research and critical thinking skills.

Method
Our team of 3 Emory graduate students, 3 RMS teachers, and our science administrator has envisioned a 3-year plan to meet the objectives using facilitated-group PBL. Each year, one of the three grade levels (6-8) will undergo training in PBL and develop cases for their specific curriculum.

We will develop resources on campus (e.g. pond, gardens, compost) which may be used by all grades for observation and field experiments.

Results
- We developed cases that effectively addressed the state-mandated life science objectives.
- We established contacts in the community and made plans to develop campus projects which will support the science curricula of all three grade levels.
- We have collected data on student achievement and attitudes towards science for Year 1. By 2006, we will have 2 years’ worth of data for 6th & 8th graders and 3 years of data for 7th graders learning science with PBL.

Conclusion
Middle school students are becoming the thinkers they will be as adults. Given compelling problems, they rise to the challenge of thinking critically. We believe that introducing PBL at this important stage of their maturation helps them develop into problem-solvers and life-long learners.

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