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HTH 315

Leading PBL Schools

February 1st, 2011

**Structures in a PBL Classroom**

I walked around the room snapping pictures. These would serve new teachers well. Hay bales were stacked clear to the ceiling in half of the room. Fish swam in a large blue barrel, with tubes connecting it to PVC piping out of which lush plants were growing. There was a bicycle made of bamboo, a windmill and a 1983 diesel engine Mercedes-Benz with the hood popped. I thought to myself, “This is what a classroom should look like.” I couldn’t wait to share the photos with teachers at my own school. I knew kids in this classroom must be engaged and learning in ways that few students ever get to experience in high school.

I finished taking pictures and began to interact with some of the students in the class. I asked them about the projects with which they were vigorously engaged. Everything was so interesting and so authentic that I wanted to know as much as I could about each project. What made you choose this project? How will it be used? What research have you completed? With what experts have you spoken? How does what you are doing compare to how this is used in the world? What have you read and what have you written about this project? The more students that I spoke with, the more I was convinced of two things: First, students *were* learning in innovative and authentic ways and they were meaningfully engaged with the work; Second, there was too great a disparity with what some students knew and were doing and what others knew and were doing.

The class I was in was a twelfth-grade Environmental Engineering course taught by a passionate and extremely talented first year teacher. There were no fewer than eight projects students were working on in one class and each of the projects was truly engaging, meaningful and had the potential for great rigor. The students were creating a sustainable community that included building (from the ground up) a functioning greenhouse, a bio-diesel car, windmills, solar panels, traditional gardens, hydroponic gardens and several smaller projects. The teacher of the course first told me about this “project” in August before the year began. I told him he was crazy and should choose *one* project for each semester, if not one for the year. He considered my suggestions thoughtfully, and kindly rejected them. He believed in himself and his students and thought it would all be ok. Amazingly, in many ways, it was.

Yet, the disparity between what some students were learning and what others were learning was of concern. I spoke with the teacher about it and he agreed that it was something that required attention. With so many different projects going on at once, it was difficult for him to monitor progress for each group, much less each student. Even though he knew what groups were supposed to accomplish on a given day, but that did not ensure that all students completed work on that group task. The class was built on being able to allow students to take responsibility over their own work and complete what needed to be done each day without scrupulous monitoring from a teacher. We brainstormed ways to address this issue and came up with several class structures to attempt to support students taking greater responsibility over their own daily actions.

The teacher decided he would dedicate a section of the whiteboard in the room to recording upcoming due dates for assignments and review them at the beginning of each class. Next, we looked for resources that could help students plan and be accountable for daily and weekly tasks. From these resources, the teacher developed a student-planning sheet for each group. The planning sheet was a simple grid with each student’s name in the left column and each day of the week in the top row. Students were given time at the start of the week and at the start of each class to record what they would accomplish that day. Each group had a leader that would approve the planning sheet after all group members filled it in. The teacher was then given the planning sheet to sign-off on as well. The bottom of the page was a weekly goals section which left room for students to write out what they would accomplish for the week overall.

The more structured planning time seemed like it would address the issue well. But we also felt like there needed to be greater time built into class for reflection. We both felt that planning and implementation must be coupled with time to reflect on success or setbacks for students to truly learn from the process. The teacher decided to dedicate time on Fridays for reflection and peer critique. A particular group would present their work from that week to be critiqued by the class. The whole class would then have time to reflect on their own work for the week.

The structures that the teacher implemented supported the tasks of planning and reflection. As engaging as a project may be (and this class was filled with engaging and meaningful projects), the bookends of planning and reflection must be built into any learning experience. In project-based learning schools, teacher and students and school leaders can all sometimes be so taken with the idea of a *product*, that the *process* of learning can be undermined. Structures need to be implemented in all classes (and sometime they are very simple), that ensure that students and teachers do not bypass the important steps in the process of learning. PBL schools and teachers can sometimes be wary of these structures, because they can seem more traditional (building background knowledge and vocabulary; direct instruction on a given topic; etc…). But they are essential in order to scaffold the learning *process* for all learners.

The Environmental Engineering class completed and presented their work at a school-wide exhibition in March. Hundreds of people attended and there was not a single person who left that night not infinitely impressed with what these students and this teacher accomplished. Students, all students, spoke eloquently about their projects and answered myriad questions from scores of visitors, demonstrating deep knowledge of their topics. The project was successful because it was engaging and meaningful and was led by a talented teacher. I hope and believe that it was supported in its success because of structures that helped to emphasize the process, not just the product.