



Engaging Students with Project-Based Learning and Career Technical Education

How can educators convince students that education is relevant to their lives and to their future? One way is to purposefully integrate meaningful project-based learning (PBL) and career technical education (CTE) activities into existing curriculum. Evidence shows that “education with a purpose” will result in higher student engagement. As a high school Language Arts teacher, here is how I incorporated what middle and high school students call “real life” PBL and CTE components into language arts curriculum.

In addition to adding lessons on cover letters and resume writing, I utilized free transportation-related curricula I found on transportationcareers.org. This site features modules, lessons, and activities developed, piloted, and reviewed by teachers, for teachers, to improve academic achievement and to inform students about careers in transportation. Modules have a common theme related to some aspect of transportation, are aligned with National Career Cluster and Common Core Standards as well as state standards, and easily integrated with math, science, English, and/or social studies curriculum.

The first lesson I piloted in the classroom was the first lesson in the Alternative Fuels module: From Where Does Power Come? I chose it because the “big problem” addressed, the need for alternative fuels, is one with which high school students can relate. Many students pay for their own gas, so they can perceive this as a big problem on a personal level, and many are interested in environmental issues, so they can also perceive this as a big problem at a global level. It has been my experience that if students see a classroom-presented problem as a real problem, they are more likely to be engaged in the learning activity.

Students were immediately engaged with the lesson, and remained engaged throughout their participation, which culminated in student presentations for each other and invited guests. In addition to evaluating their presentations, I asked each student to peer evaluate the group presentations using a rubric as well as self-evaluate their own participation in the project. This

gave me multiple forms of assessment, as well as encouraging and teaching self-assessment and self-monitoring skills. Student comments after completing their projects and presentations included the following: “It was fun!” “It was challenging.” “I did extensive research.” “I liked it.” “I learned a lot.” “It was a lot of work, but it was worth it.” Comments I did not hear: “This is boring. Why do I/we have to do this? Why is this important? What does this have to do with real life?”

Because student engagement and sense of accomplishment was so keen with the Alternative Fuels lesson, I later successfully

Alternative Fuels Course Module

This module presents four activities that address how alternative fuels are used for transportation. The entire module can be taught in 19 50-minute class periods and the lessons can be taught independent of each other.

Lessons: Where Does Power Come From?, What is “Carbon Neutral”?, Fuel Energy Rations, Designing an Environmentally Friendly Car

integrated more lessons from transportationcareers.org into my Language Arts classes: Highway Bridge Project – Repair or Replace? To Pave or to Pour, That is the Question!, and Road and Rail Infrastructure: Bridge Design. These and other recently updated lessons within each module support each other but can also be used as “stand-alone” activities. Because of time constraints, you may only be able to integrate one or two lessons into your curriculum; I encourage you to start by adding the section or sections that will best augment what you are already implementing. I am convinced that you and your students will find it well worth your time. ■

Transportationcareers.org

A teaching resource with lesson plans and associated resources.

