

Bringing Authentic Research into the Classroom with the Mars Student Imaging Project: Comparison of the PBL Gold Standards to the Scientific Methods

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The goal of Project Based Learning (PBL) is to actively engage students through authentic, real word study to increase content knowledge, understanding, and skills for everyday success. The essential design of PBL is very similar in nature to the scientific method and therefore easy to adapt to the science classroom.

In my classroom, students use these essential elements when engaging in the study of the processes that affect the surface of a planet such as weathering and erosion. Studying Mars is a hook to getting students to learn about the same processes that occur on Earth and to contrast the differences that occur on another planetary body. As part of the Mars Student Imaging Project (MSIP), students have the opportunity to engage and collaborate with NASA scientists at Arizona State University and get feedback on their work. They research and develop their own question or area of focus to study. They use images of Mars taken using the THEMIS camera onboard the Mars Odyssey Satellite, which has been orbiting Mars since 2001. Students submit a proposal to the scientists at ASU and, if accepted, they are given the opportunity to use the THEMIS camera in orbit to photograph a new region on Mars that will hopefully contribute to their research. Students give a final presentation to the faculty, staff, community, and other students by presenting their work in a poster session and explaining their work to the audience.