Teaching about Photosynthesis in the Classroom: A Graduate Student Service-Learning Experience with Eighth Grade Students in a Science Class

The purpose of this service-learning experience was to provide a graduate student from Purdue University with a teaching experience at a local public school. Through this program, the graduate student assisted a middle school science teacher in the development of class activities and engaged eighth graders in active learning and scientific inquiry.

Specifically, one hundred and thirty-two 8th grade students participated of a series of active learning activities developed by a Purdue graduate student in collaboration with the teacher. These activities aim to enhance students' understanding of the process of photosynthesis.

A four-days lesson was implemented during a month, once per week. First, students were engaged in a class discussion about what photosynthesis meant and how the process of photosynthesis was connected to their daily lives. Secondly, they watched an educational video about photosynthesis to be familiar with the vocabulary of photosynthesis. Third, they worked individually first and then as a class in the completion of the handout. Fourth, students participated in a experimental activity which involved growing a plant under light and dark conditions. Students defined their hypothesis and tested with the experience. The goal of this activity was that students determined through experimentation that light energy promotes plant growth.

This grant is in progress. Following activities involve water their plants by another day and register the plant growth observation weekly over a 6 weeks period. At the end of the experience, students will be able to accept or refute their hypothesis and draw conclusions from the observations.