Physics and Everyday Thinking

Indicates a research-demonstrated benefit

Overview

PET is a one semester, guided-inquiry physics course that incorporates extensive small group and whole class discussion and laboratory work to help students develop a deep conceptual understanding of big ideas in physics. PET also incorporates specific activities that focus on the nature of science and the nature of learning.

Type of Method	Full curriculum
Level	**Designed for:** Teacher Preparation **Can be adapted for:** Teacher Professional Development, High School, Intro College Conceptual
Setting	**Designed for:** Studio **Can be adapted for:** Lecture - Small (<30 students) , Lab
Coverage	Few topics with great depth
Topics	Mechanics, Electricity / Magnetism, Waves / Optics
Instructor Effort	Medium
Resource Needs	Computers for student use in class, Computers for student use outside of class, Lab equipment for student use - professional, Cost for students, Tables arranged for group work
Skills	**Designed for:** Conceptual understanding of physics content , Think like a scientist , Reflecting on one's own learning , Self-confidence around physics, Representing knowledge in multiple ways **Can be adapted for:** Understanding how physics relates to the real world, Enjoyment of physics
Research Validation	**Based on research into:** how students learn , student ideas about specific topics **Demonstrated to improve:** scores on multiple choice conceptual tests , scores on written conceptual tests , beliefs about physics **Studied using:** conceptual pre/post exams , beliefs pre/post exams ,

video of students , research conducted at multiple institutions

Compatible Methods	PhET, JiTT, Physlets, SCALE-UP, OSP, LA Program, CPU
Similar Methods	PBI, PSET, LEPS
Developer(s)	Fred Goldberg, Valerie Otero and Steve Robinson
Website	http://petproject.sdsu.edu/