

Case Study of a Technological Literacy Course

John Krupczak, Leslie Wessman, Scott Vanderstoep
Hope College
Holland, MI 49423 USA

A case study of an established technological literacy course is being conducted by a collaboration between the Engineering, Education, and Psychology Departments at Hope College. Since 1995 the Engineering Program at Hope has taught a course called: "Science and Technology of Everyday Life." The course examines the scientific principles underlying modern consumer technological devices and features hands-on laboratory projects such as taking apart a car engine and building a speaker and amplifier. Distinguishing features of this course are study of a broad sample of familiar technological devices, construction by students of working devices, and writing assignments on technological topics. The course has been taught 22 times to more than 900 non-science students. The largest constituency for the class is pre-service elementary and secondary school teachers. Over eight years, enrollment has averaged 60% women and 26% pre-service teachers. The course has increased in popularity to the point where it is routinely one of the first closed classes during registration. This presents a unique situation in which a class taught by engineers is one of the most popular courses at a liberal arts college. Consistently positive results concerning stimulation of interest in the subject and perceived value of the course, as well as indications of transfer of learning beyond the classroom, encourage a more thorough investigation of the opportunity this situation provides. A case study of this established course is being conducted using the principles of learning and the recommendations outlined in the National Research Council's: "*How People Learn*," and the "*Standards for Technological Literacy*," established by the International Technology Education. To evaluate student motivation, the Motivated Strategies for Learning Questionnaire (MSLP) has been applied. Development of the case study began in September 2003. The majority of data will be acquired and a preliminary analysis will be available by the time of the conference.