

The Knowledge in Action™ Project

For over 50 years, Advanced Placement courses have been a national benchmark of rigorous high school curricula. The opportunity to update AP—and related benchmarks—for new generations of students is a “hot spot” for high impact innovation in education today. Many argue AP has not kept pace with research on how people learn (NRC, 2002). College readiness initiatives are incentivizing students to tackle courses widely recognized for rigor, but we believe innovations are needed, so students with the initiative to take challenging courses will find fertile grounds to succeed.

The Knowledge in Action™ project (KNAC, pronounced “knack”) is designing and testing a rigorous project-based learning approach to upper-level courses in high school, using principles of how people learn.

Project Goals

- ✓ Same or higher scores on the AP Test
- ✓ Accomplishment that’s more valuable
 - Deep conceptual learning
 - Capacity for principled, adaptive reasoning
- ✓ Engagement that’s greater; appeal and success for more students
- ✓ A course that’s sustainable and scalable by design

Hypothesis: New learning designs embedded in integrations of project-based learning with traditional Advanced Placement (AP) will enhance the engagement and learning outcomes of participating students.

Research: Year 1 of the Knowledge in Action “AP+” Course

In 2008-09, research was conducted with 314 high school students from 12 classes in three schools, all in the Bellevue (WA) School District near Seattle. In each of two studies, outcomes from a PBL AP course were compared to those for a traditionally-taught course.

The Knowledge in Action Project measured student achievement in two ways. Students in both the redesigned and traditional classes took the AP U.S. Government and Politics exam given in May. Also, before and after the course, students took a Complex Scenario Test that measured their strategies for realistically monitoring and influencing public policy.

AP Test and Complex Scenario Test Results

Study 1 Result “AP+” students from a high-achieving school performed significantly better than traditionally-taught AP students also from a high achieving school . . . on both tests.

Study 2 Result “AP+” students from a moderately-achieving school (N=102) were compared to the traditionally-taught AP students from Study 1. The “AP+” students performed as well on the AP test . . . and better on all 4 dimensions of the Complex Scenario Test.

Looking Ahead

With a recent grant from The Bill and Melinda Gates Foundation, the Knowledge in Action project is now embarking on an expansion, to *AP Environmental Science* and to schools serving large numbers of *economically-disadvantaged students*. Key features of the investigation are teacher development and system design principles—to help others convert rigorous but relatively individual and memory-oriented courses into socially relevant experiences that help all succeed.

A number of studies show that deep understanding can flow from project-based curricula. But for successful implementation with rigorous subject matter, they need to be carefully designed and supported. A professional development and support system, with which we will be able to extend Knowledge in Action™ “AP+” to other school systems, is under development. Curricular materials will be available for distribution at that time.

Reference

National Research Council. (2002). *Learning and understanding: Improving advanced study of mathematics and science in U.S. high schools*. Washington, DC: National Academy Press.



The Knowledge in Action™ (KNAC) “AP+” project is a collaboration of the University of Washington, the [LIFE Center](#), the [Bellevue Schools Foundation](#), and [The George Lucas Educational Foundation](#), with [The Bill and Melinda Gates Foundation](#)

*John Bransford (PI and Co-Director), Susan Mosborg (Co-PI),
Nancy Vye, LIFE Center, University of Washington
Partnering UW faculty subject matter and pedagogy experts
Steve Arnold (Co-Director), George Lucas Educational Foundation
In collaboration with the Bellevue (WA) School District*

*Acknowledgment: Work supported by the NSF LIFE Center
(SBE- 0354453, Science of Learning Center program)*