

Authentic Learning

Authentic learning is a pedagogical approach that empowers learners to collaborate with one another and teachers to solve real-world complex problems. This type of pedagogy emphasizes the role of the teacher as facilitator/coach who designs problem-based environments with learners. This approach recognizes a continuum of problem-based real-world learning environments including case studies, simulations, role-playing, virtual internship experiences, and actual internships in the community. The most common examples of this type of learning come from courses in nursing, physical therapy, education, and business. But authentic learning is readily apparent in courses such as physics, biology, English, philosophy, and history when instructors design activities that require learners to make connections to real world problems.

What Research Supports the Use and Implementation of Authentic Learning?

Doyle (2011) summarizes the brain research that supports authentic learning by noting that students find these activities meaningful, engaging and thus rewarding. See his discussion of brain research at <http://learnercenteredteaching.wordpress.com>. His new book is titled *The New Science of Learning: How to Learn in Harmony with Your Brain*.

What does a syllabus look like that illustrates a clear connection among student learning outcomes, authentic learning, and student-centered projects?

Listed below are examples with links to syllabi that include these key elements.

- [See the Syllabus](#) from Physical Therapy 551 Research Methods (Sandy Ross); Notice the projects that require students to present either a research proposal or a systematic review of literature to a group of peers. These tasks are representative of the tasks that physical therapy practitioners undertake on routine basis and thus are excellent examples of “authentic learning opportunities.” Another highlight of this syllabus are the very specific unit plans that include student learning outcomes and related assignments. One of most learner-centered and engaging units involves a debate centered around the book, *The Immortal Life of Henrietta Lacks*. [See the Sample Project](#) related to Ross’s Research Class Physical Therapy 551; **Project: Debate: Henrietta Lacks**. This is an adapted version of Dr. Ross’s original project. This adapted version demonstrates the close connection among the student learning outcomes, the activities designed to achieve the outcomes and evaluation of those outcomes. The development of the scoring guide is a joint effort between the instructor and the students.

- [See the Syllabus](#) for an Environmental Studies Seminar that conducts a greenhouse gas emission inventory for its university ([see the link](#) to Macalester College Syllabus, Spring 2008)
- [See the Syllabus](#) from Nursing 302 Psychosocial Nursing by Alice Jensen. Many students come to the course with misconceptions about the nature of mental illness. The addition of art, film, literature, and music is included in an effort to increase empathy for and understanding of mental illness. The syllabus includes an assignment that uses current film and fiction as a case study in pathology and treatment. This assignment allows students to apply the major concepts of the course to a movie or book and provides a unique opportunity to “put it all together”. See Appendix A for the detailed directions for Professor Jensen’s case study book/movie project. This student-centered and engaging project is clearly linked to student outcome #2 in the syllabus. Professor Jensen’s [powerpoint presentation](#) on schizophrenia includes a movie reference to John Nash (i.e., “A Beautiful Mind”).
- [See the Syllabus](#) from Education 333 – Integrating the Arts by Dr. Steve Coxon; You will notice that this syllabus is tied to an in-school practicum, which provides authentic learning opportunities for pre-service teachers. One authentic experience includes developing a digital storytelling project for elementary level students. Project One on page 4 of the syllabus explains why this Digital Storytelling project is student-centered.
 - [Students co-create the scoring guide](#) with the instructor
 - Students use technology creatively (e.g. use of IMovie or Windows Movie)
 - The instructor provides links that help the students create this project; <https://www.youtube.com/watch?v=CWtauWq1rE4&list=LLcXO0msOu5Ji8GQ2xzEKnhA&index=1>;
 - <http://www.digitales.us/>
- [See the Syllabus](#) for Interior Design 400 – by Darlene Davidson and Mark Herman. One of the key student-centered projects for this course is [Project 3: Design of Medical Office Space](#). This project is a wonderful example of applying student learning outcomes (design skills and knowledge; p. 4 of syllabus) to real world problems. [The Project Guidelines](#) include specific requirements and display a clear connection to student learning outcomes

What are some good examples of Authentic Learning?

- MEAs (Model Eliciting Activities) were developed by mathematic educators to encourage students to build mathematical models to better solve complex problems. The Judging Airlines Task asks students to examine data on departure delays for five airlines flying out of Chicago’s O’Hare Airport. The task is to develop a model to determine which airline has the best chance of departing on time. This example, based on an activity from faculty at Purdue University, [can be found at the Causeweb.org site](#).

- As part of a seminar in Environmental Studies, students conduct a greenhouse gas emission inventory for their college or university as a required part of the American College and University Presidents Climate Commitment. Students analyze findings and present information to the college or university community and the Presidents Climate Commitment committee. [This example is from Macalaster College.](#)
- [The History Engine](#) is an educational tool that gives students the opportunity to learn history by doing the work—researching, writing, and publishing—of a historian. The result is an ever-growing collection of historical articles or “episodes” that paints a portrait of life in the United States throughout its history and available to scholars, teachers, and the general public in an online database.
- One source for teaching anatomy and physiology courses is the [The Visible Human Project](#)[®] – an outgrowth of the National Library of Medicine’s 1986 Long-Range Plan. It is the creation of complete, anatomically detailed, three-dimensional representations of the normal male and female human bodies. The long-term goal of this project is to produce a system of knowledge structures that will transparently link visual knowledge forms to symbolic knowledge formats.

What guidelines would you use to design authentic experiences for your course?

The [research of Herrington, Oliver and Reeves \(2003\) and Lombardi \(2007\)](#) suggest instructors design authentic learning opportunities that:

- are as close as possible to real world tasks in business, industry, health care, and education
- are often ill-defined so that students often identify sub-tasks that need to be completed
- are consistent with tasks performed by experts in various disciplines; ask this question: how would an historian, journalist, ethicist, or marine biologist approach this problem?
- involve complex problems that can be investigated by students over an extended period of time
- require teamwork similar to the workplace setting; thus groups of students need to draw on multiple perspectives and sources including those people who are affected by performance of the group(i.e., farmers, clients, business customers)
- require final products to be presented to real-world stakeholders—not just the instructor and students
- require performance-based feedback provided by real-world stakeholders

Resources:

- <http://authenticlearning.info/AuthenticLearning/Home.html>
- <https://teachingcommons.stanford.edu/gallery/mooc>