

## Key Concepts

### Problem-based Learning

**Problem-based learning:** engages students in learning by presenting them with a problem that is challenging, open-ended, and authentic. Teams of students work together in teams to identify the information they need and to develop a reasonable solution to the problem. Instructors become facilitators, coaching students as they work through the problem-solving process. This approach can be highly motivating to students, and has been shown to foster the development of critical thinking, team participation, problem-solving, and self-directed learning.

<http://depts.washington.edu/cidrweb/OLD/resources/pbltools.html>

**Scaffolding:** an instructional strategy that optimizes student learning by providing structure while facilitating student independence. The process of scaffolding involves “systematic sequencing” of learning events that involve varying degrees of support from the instructor. Support from the instructor gradually reduces over time as the students gain more autonomy and take more responsibility for their own learning.

<http://www.vtaide.com/png/ERIC/Scaffolding.htm>

**Instructor role in problem-based learning:** provide an ill-structured problem, facilitate the process, set benchmarks, monitor learning, manage group dynamics, involve students in the planning and questioning process.

**Student role in problem-based learning:** read and analyze the scenario, list hypotheses, identify known and unknown information, develop a list of action items, collect information, present findings, reflect on the process.