Laney College

Problem Based Learning (PBL): Key Points

Problem Based Learning (PBL): Detailed open-ended scenarios simulating real-life work situations where students develop essential employability skills such as communication, problem solving and teamwork collaboration.

Differentiating "PBL / Problem solving" and "Troubleshooting"

- Troubleshooting: Systematically identifying what is wrong, check-list approach typically resulting in one solution
- Problem solving: Open-ended inquiry, considering multiple contributing factors and multiple potential solutions that may go beyond the initial definition of the problem, a broader system-level approach to learning

Key Components of PBL

- Team based projects and tasks: Provide students with practice in communicating, working and learning social skills with fellow "employees," while addressing and solving problems by doing
- Role playing: Students assume professional roles and responsibilities as if working in the field
- Resources and online links: Require students to do research to build on their existing knowledge
- Reflection questions and assignments: Guide students to articulate what they need to know and how to critically ask questions using the inquiry method (process) of learning
- Assessment: Students are assigned tasks and product deliverables
- Interactive discussions: Instructor becomes a facilitator and coach of the team learning process, , replacing lectures

Criteria for Developing PBL Scenarios:

- A problem or scenario is presented with missing information. The scenario is open-ended allowing for critical thinking and analysis thus generating a range of solutions that have not been suggested before. Students determine if the problem suggested is the real problem or whether there is a different problem that needs to be solved
- Local industry is involved, both in the development and the assessment of the scenario, i.e., Laney College instructors have industry experience or access to community resources can be used

Throughout the PBL process, students learn:

- To uncover a range of solutions (not a single solution) within a range of constraints (feasibility, practicality, time, etc.); Solutions may lie outside the boundaries of a given problem
- To ask questions and do research in teams to determine the true nature and scope of the problem
- How to best organize and present information through their research such as seeing how others in industry organize and report information
- To share assumptions they make, consider alternate assumptions and describe how a final recommendation was reached. Final team presentations are made with an opportunity for industry feedback and dialogue with teams. Instructors develop student learning outcomes and assessment strategies to monitor problem-solving progress throughout the team process

Some Benefits of PBL:

- Hands on work coupled with PBL supports students dealing with problems that might be encountered on the job
- Increased tolerance for getting various workable solutions rather than a single"right" answer
- Improved understanding and discovery of what the "real" problem is as opposed to spendings time on what the problem first appears to be
- Appreciating the value of asking questions before having answers as well as valuing different perspectives of other team members. Learning how to critically think and analyze, organize and plan as opposed to diving in quickly and trying to "fix" things. Understand the importance of good documentation
- Practicing "Social Skills", ie, communication and negotiation skills in a team or work environment to address and solve problems