Problem-Oriented Approaches to Teaching and Learning Across Disciplines

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What is POL?

- What is your definition of problem-oriented learning?

- Is there anything about your particular context that might affect the way you implement problem-oriented learning?
  - Consider your discipline and your cultural context.
  - Consider issues within developing countries.

"Beyond PBL"

- Varied applications of PBL

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- Broader definition of Problem-Oriented Learning (POL)
    - Problem-oriented approaches to teaching and learning focus on the application of course content to real-world problems and issues. They encompass traditional problem-based learning as well as approaches like team-based learning, self-directed learning, case studies, project-based learning, design-oriented learning, and problem-based service learning.

Definition of POL

- Problem-oriented approaches to teaching and learning focus on the application of course content to real-world problems and issues. They encompass:
  - Traditional PBL
  - Team-based learning
  - Self-directed learning
  - Case studies
  - Project-based learning
  - Design-oriented learning
  - Problem-based service learning

Survey

- Distributed to members of the PBL Network at UBC (electronic; in conjunction with TAG)
- 10 open-ended questions
    - Structure of course, problem
    - Strengths of POL technique
    - Problems or issues encountered
- Did not assume supports traditionally associated with PBL
- POL defined broadly to capture what is happening with learner-centered instruction across disciplines

Approaches Currently in Use

- Project-based
- PBL
- Small group tutorial (SGT)
- Case studies with team presentations
- Intuitive learning (on the part of the teacher)
- Community service learning project
- Collaborative learning

Why the variation?

- Consider your own context.

  - Do you have relevant experiences in other contexts?

  - Changes from traditional PBL because of philosophical/conceptual rationale vs. changes that occur as a result of context (e.g., logistics, administrative concerns)? Or some combination of factors?

Change in Structure Over Time

- Two initial projects to orient students
- Students can select own teams; teams limited to 3 or 4 students.
- Think of student <u>teams</u> rather than groups.
- TAs grade rather than lecturers
- Always fine tuning
- Case studies more structured
- PBL to Case-based learning
- Online learning and computerization added
- Student goal setting
- Limited length of case assignments

Discussion Questions

Do these changes represent a "natural evolution"?

Have there been evolutions within your contexts? What were they and why did they happen?

# Limitations or Challenges in Implementation

- Contact when the team needs help.
- Developing the case; matching a case to curriculum content and timing; access to resources
- [Time] to coach students; set up community learning experiences; provide timely critical feedback
- Students' computer skills
- Lack of experience in tutoring

What Prompted Changes

- "My increasing ability to construct cases that enhance student learning and critical thinking"
- Tutor comments
- Student background and student demand
- Insufficient funds and time for tutor training
- Full time technical assistant in lab who participated in teaching and grading – position was cut
- **"NO CHANGES. NO HELP."**
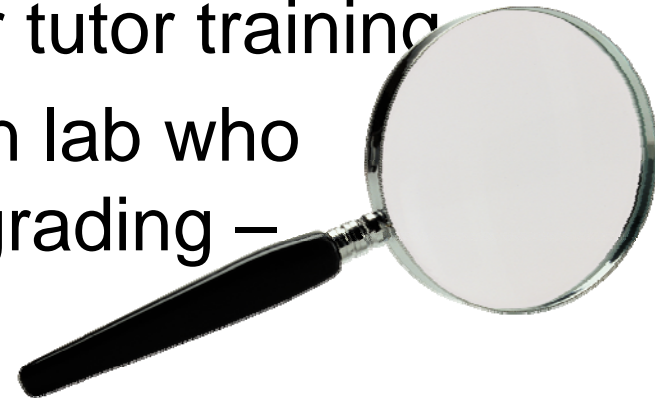
Strengths of POL

- Brings reality into learning environment
- Responds to student and faculty concerns
- Student engagement
- "Reality therapy for students"
- Student development as presenters and teachers
- Self-actualization of students

Strengths of POL

- Learners love it; highly appreciated
- Good integration of the curriculum
- Motivation, interactive learning, interdisciplinary integrated learning
- Self-directed learning and development of research skills
- Experience working as a team
- Development of problem solving skills

Quotation from Science

- Students talk to each other; they work in teams; they apply their backgrounds to understand problems and scientifically approach problems. They need to understand their own backgrounds and where to find/think about information to make their project work. If we just gave them outlines then they would work through the outline but they they would not have the deeper understanding created by the project and they would have less tendency to use their knowledge of working through a project.

Where do we go from here?

- Issues (1/3 of responses)
  - Workshop stressed not to give answers or teach (resulted in "moral distress")
  - Learning process "is tutor's responsibility"
  - "I disagree vociferously with the PBL philosophy to use non-experts."

Looking at POL from an International Perspective: Generating Ideas and Directions

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