

# Experience It Yourself: An Introduction to Problem-Based Learning



*Institute for Transforming  
Undergraduate Education*

*University of Delaware*



PBL2002: A Pathway to Better Learning

June 16-20, 2002



# John Dewey...

---

**“True learning is based on discovery guided by mentoring rather than the transmission of knowledge.”**



# Characteristics Needed in College Graduates

---

**High level of communication skills**

**Ability to define problems, gather and  
evaluate information, develop solutions**

**Team skills -- ability to work with others**

**Ability to use all of the above to address  
problems in a complex real-world setting**

Quality Assurance in Undergraduate Education (1994) Wingspread Conference,  
ECS, Boulder, CO.



# Recommendations from the Carnegie Foundation

---

**Make research-based learning the standard.**

**Build inquiry-based learning throughout the four years.**

**Link communication skills and course work.**

**Use information technology effectively.**

**Cultivate a sense of community.**



# Cooperative Learning: What the research shows

---

## **Academic Success**

higher achievement, including knowledge acquisition, accuracy, creativity in problem-solving, and higher reasoning level.

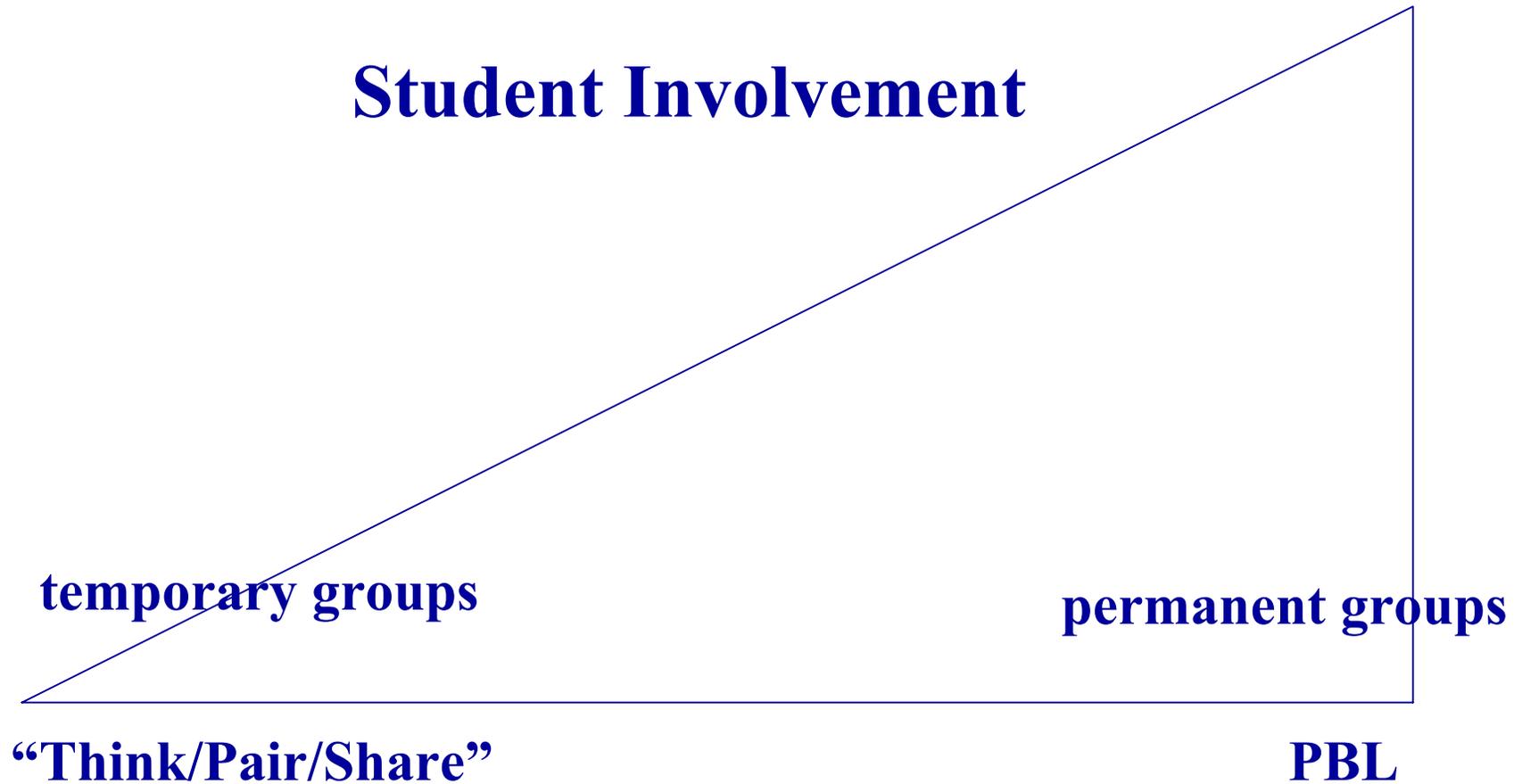
## **Attitude Effects**

persistence towards goals, intrinsic motivation, applying learning in other situations, greater time on task



# Methods of Active and Group Learning

## Student Involvement





# What is Problem-Based Learning?

---

**PBL is an instructional method that challenges students to “learn to learn,” working cooperatively in groups to seek solutions to real world problems.**

**PBL prepares students to think critically and analytically, and to find and use appropriate learning resources.**



---

**“The principal idea behind PBL is that the starting point for learning should be a problem, a query, or a puzzle that the learner wishes to solve.”**

*Boud (1985)*



# **What are the Common Features of PBL?**

---

**Learning is initiated by a problem.**

**Problems are based on complex, real-world situations.**

**All information needed to solve problem is not initially given.**

**Students identify, find, and use appropriate resources.**

**Students work in permanent groups.**

**Learning is active, integrated, cumulative, and connected.**



# **PBL: The Process**

---

**Students are presented with a problem.**

**They organize ideas and previous knowledge.**

**Students pose questions, defining what they know and don't know.**

**Assign responsibility for questions, discuss resources.**

**Reconvene, explore newly learned information, refine questions.**



# The Problem-Based Learning Cycle

**Overview**

**Problem, Project,  
or Assignment**

**Mini-lecture**

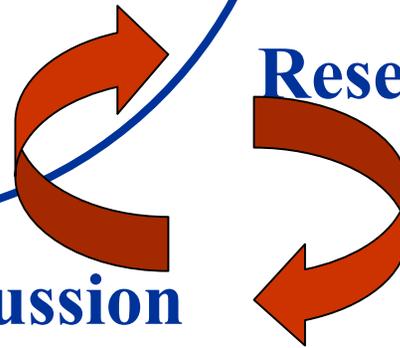
**Whole Class  
Discussion**

**Group  
Discussion**

**Preparation of  
Group “Product”**

**Research**

**Group Discussion**





# **Compelling Features of PBL for New Adapters**

---

**Models itself on how students learn.**

**With information overload, prepares students to be life-long learners.**

**More realistic curriculum prepares students for world outside the classroom.**

**Ensures more up-to-date materials, content.**

**Generates enthusiasm among faculty.**

Boud and Feletti, 1998



# PBL: Experience It Yourself

---

## Whose Baby Is It?



Courtesy of University of Utah Andrology Microscopy Lab  
[http://www.med.utah.edu/andrology/photo\\_gallery.html](http://www.med.utah.edu/andrology/photo_gallery.html)



# PBL: Experience It Yourself

---

- 1. Who are the parents?  
How could they tell?**
- 2. What are the implications for  
the two couples?**
- 3. What questions should they  
ask?**
- 4. What are the possible  
recourses?**





# Stage Two

---

- 1. How does race affect the case?**
- 2. Each group should discuss one of the following issues that need to be resolved:**
  - **legal**
  - **social**
  - **ethical**
  - **health**





## Stage Two (cont.)

---

**For group discussion:**

**How should this case be resolved?**





# Stage Three

---

**For group discussion:**

**Do you agree with the  
court decision?**





# Reflections and Questions

---

