Cooperative (sciences

Collaborative (English/humanities

PBL health professions

TBL business, management, medical/health

Larger groups in TBL and PBL

Brain evidence

Explaining to a partner makes widespread brain activitiy

Attention span—not long enough for a lecture

RETENTION: small group learning improves relationships among students and with faculty which improves retention

Goals: student engagement, lively intellectual discussions, critical and creative thinking, peer interaction, academic success, hands—on and minds-on

Need individual accountability

PBL 1960s, period of serious fun, activism, technological innovation

Facts + Memorize + problem assigned to illustrate how to use it

PBL

Problem assigned + ID what we need to know + learn and apply it to solve the problem

You aren’t just learning how to solve problems. You have to learn facts to be able to solve the problems

PBL is slightly less effective than traditional instruction at improving short-term knowledge—but PBL improves long term knowledge retention!

No activities that are better divided up to get done

Individual work X within teams X between teams

* Problems need to be Significant to STUDENTS
* Same problem for all teams
* Specific choice, make the choice using course concepts
* Simultaneous Report

Lowest team score was 4 pts higher than the HIGHEST ind in the entire class!

1,246 students in 193 teams (23 individuals scored higher than the lowest of 193 teams (2%)

only 3 of 22 classes had any individual score higher than a team

6,738 students in 1,210 teams

1 individual outscored his team

Since 1979 8000 students in 1400 teams, intervened 2x for less than 5 minutes

NEED A Peer Assessment and Feedback process

Which aspect of the collections room is most critical to improve care of the collections?

The real reason graduates can’t get hired is that they lack skill in communication, critical thinking, creatively and collaboration NYT? 2013

**PBL cycle**

1. read prob and discuss, assign roles
2. determine what they know and need to know
3. conduct research
4. group discussion/ knowledge gaps
5. solve problem, complete taks, prepare group product
6. wrap-up

**Anatomy of an effective PBL Problem**

* Must be Messy and Complex
  + Open-ended
  + Multiple solutions
* Real world
  + Relative to career path
* Engaging and motivating
  + Snappy title
  + Students should be participants in the action (write it as second person
* Connected
  + Scenario matches course learning objectives
* Guiding questions
  + Not always necessary
  + If used, should guide, not direct
* Single or multi page/stage
  + Can present all at once or in stages

State the problem

Identify what you know

Identify what you need to learn

What’s a concept map: a graphical representation of individual or group knowledge as it relates to a specific concept or idea

Use concept maps to:

* Facilitate information processing (collect and organize new info, develop skills support lifelong learning
* Clarify and Manage Course Content (ID gaps in knowledge, show conceptual misunderstandings, prepare study guides🡪she lets them bring their concept map to exams!, outline projects and papers, connect content among courses)
* Improve communication and collaboration

She uses software! Cmap Tools (FREE), VUE, Inspiration, Mind Manager

Post-it notes work well

Process:

1. develop the focus question
2. identify 15-25 relevant concepts (“parking lot”)
3. rank the concepts
4. begin building the map, start with 1-4 most general concepts
5. choose explicit linking words or phrases to connect/relate the concepts
6. continue building the concept hierarchy
7. search for possible crosslinks
8. reposition and refine the map structure (beautification)

Cmap building blocks: Propositions

Concept + linking word/phrase (proposition) + Concept

Have them draw their own individual concept map, them have them do a TEAM one

**Engaging Students: What works**

**21st century learning skills**

**Thinking Skills**

critical thinking

problem solving (steps to go through , look for **problem solution chart)** -- Collaboration

creativity

metacognition

**Actions**

Communication

Collaboration

Digital literacy

Visual literacy

Technology literacy

**Skills for living in the world**

Civic and citizenship skills

Global understanding

Leadership andr esponsibility

College and career/workplace skills