

# Why PBL?

## Models and conceptions

c|PBL\manchester

1. What is PBL?
2. Some educational goals
3. Models to achieve goals
4. Other issues
5. Summary

## 1. What is PBL?

PBL: pose problem 1<sup>st</sup>. Motivates, knowledge structure: Many options. *challenge*: problem solving skill, cues.

Small group: active, prompt, coop, learning styles. Many options.  
*challenge*: make the small group do this.

Self-directed: students own. Lifelong learning skills. Many options. *challenge*: accountable.

Self assessed: students create & do assessment. Many options.  
*challenge*: you monitor process.

SG,SD,SA interdependent PBL:

# 1. What is PBL? self-directed learning?

	Teacher	share	student
1. pick problem			
2. know what know			
3. need to know?			
4. prioritize & contract to learn: goals/ criteria			
5. select resources			
6. learn			
7. share			
8. solve problem			
9. assess			
10. elaborate			

## 2. Some educational goals

### 2.1 Goal: recall for professional practise.

Knowledge is stored in Long Term Memory and coded for future recall. The structure or patterns used can be

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structured for learning (similar to a text)

cued to connect the "real world" with the knowledge.

Example: Herb Simon, thermodynamics:  
falls from a great height.....include potential energy  
flows through a valve.....assume enthalpy constant

## 2.2 Goal: Improve learning

### 1. Chickering & Gamson + others

1. active
2. cooperative
3. quality of teach-learn interaction
4. prompt feedback
5. time on task
6. environment expects success
7. personal learn style
- +
8. assessment by students
9. published goals/criteria
10. attention span = 20 min
11. wait time before answering 20 s
12. knowledge/ skills/ attitude

## 2.3 Goal: Student take “deep” approach not “surface” approach to learning

Options: strategic: work hard

rote learning: memorize

deep learning, search for meaning

Conditions to aid development of deep learning:  
(Ramsden & Entwistle)

1. good teaching
2. openness to students
3. freedom to choose
  
4. clear goals & standards
5. vocational relevance
6. social climate
  
7. (-workload)
8. (-use of formal lectures)

CPQ 15 - 20      rote learning

CPQ 35 -45      deep learning

## 2.4 Goal: acquire "Lifetime Learning skills."

Dependent

Independent

Interdependent learning

Ability to:

Explore, extract issues, elaborate.

Identify what you know already.

Identify your learning needs.

Prioritize and apply successive approximation & optimum sloppiness. Convert needs to goals, create criteria and the type of evidence that tells you when you have achieved the goals.

Learn and **teach** to others.

Apply knowledge to solve problem.

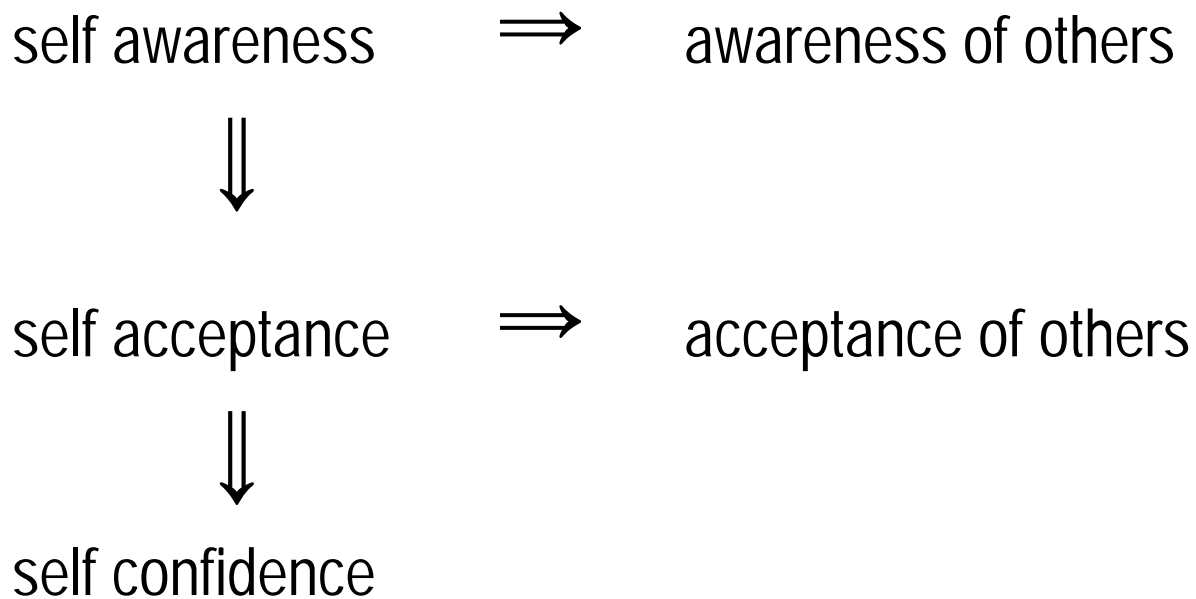
Assess & reflect.

## 2.5 Goal: Develop self confidence

Gibbs "Whoever owns the assessment, owns the learning."

Alverno College: "Self assessment is most valued skill."

Students from MPS program, "Self assessment helped me the most."



## 2.6 Goal: Develop skills in

M problem solving,

M team work

M communication

M change management

### 3. Models to achieve the Goals

Goal	"Lecture"	SG, SD, SA, PBL
2.1 Knowledge structure	Possible: - teacher provide structure - concept maps - cue training	Occurs naturally; elaboration & reflection help Problems must be in professional context
2.2 Improve learning <i>active</i>	- "turn to a neighbour &..." - Feedback lecture - Form a line - TAPPS	easy
<i>cooperative</i>	- informal - formal - study groups	easy
<i>time on task</i>	easier because "teacher" manages	motivation helps keep them clear
<i>prompt feedback</i>	- possible, use peers	easy
<i>learning preferences</i>	- possible	easier because of small group

Goal	"Lecture"	SG, SD, SA, PBL
<i>empower students</i>	self assessment they create exams Socratic: they create Branda's PBEE	yes
<i>motivation</i>	possible with charisma	high because of student ownership
<i>clear goals/ criteria</i>	easy but must do	challenging because student's own it; monitor
<i>student succeed</i>	- not weed out - not research - not "cover" it - not "me talk"	easier to do
2.3 Deep learn: above plus: <u>student as person</u>	know names celebrate	easy
<u>professional practice</u>	pose problem first elaborate	very easy; selection of problems is key; elaboration
<u>emphasis on learning</u>	get feedback ombudspersons	easy to get feedback;

Goal	"Lecture"	SG, SD,SA, PBL
2.4 self confidence / self assessment	not usually	opportunity but usually the tutor assesses; use SA
2.5 Lifelong learning	no; tend to feature dependent or independent projects	natural
2.6 problem solving	need to provide opportunity	opportunity but need explicit work; usually tutor supplies & perhaps students learn
2.6 team work		
2.6 communication		
2.6 change management	not usually encountered	needed

### 3. Models to achieve goals: Options of PBL

one-on-one			small coop group			
one	large-class		tutorless			tutored
research	Branda's PBEE	Socratic	Guided design	Socratic	MPS	medical school model
ongoing	single event; single issue	ongoing	prepared written feedback		ongoing	ongoing
need:	time to mark & prepare	think on feet	prep		prep	think on feet; skills in group process
problem solving			problem solving & group skills			

Am. J. Pharmaceutical Ed., 60, 231-238 (1996)

## 4. Other issues

## 5. Summary