

Problem-based Learning

Promising expectation
or Fitting despair?

Professor Maggi Savin-Baden
Coventry University



Overview

- What I think PBL is
- Three reasons not to be cheerful
- Four reasons **to be** cheerful
- Four 'but' clauses



Learning through problem situations is not new

PBL was popularized in the 1960s as a result of research by Barrows into the reasoning abilities of medical students.

. . . research stemmed from a desire to help medical students develop the ability to relate their knowledge to the problems with which the patients presented



Problem-solving learning

. . . *focus is on*


Acquiring the answers expected by the lecturer, answers that are rooted in the information supplied in some way to the students

e.g. Giving students a information or an article to read and then a set of questions based upon the information given



PBL is different

1. Organize curricular content around problem scenarios rather than subjects or disciplines
2. Students work in groups or teams to manage these situations but are not expected to acquire a predetermined series of 'right answers'

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3. Students are expected to engage with the complex situation presented to them and decide what information *they* need to learn and what skills they need to gain, in order to manage the situation effectively

Problem-based learning in different curricula

Pharmacy

Physics

Medicine

Law

Physiotherapy

Engineering

Business studies

Nursing

Dentistry

Art and Design

Accountancy

Music

Policing

Media studies

Automotive design

Optometry

Chemistry

English . . .

Reasons not to be cheerful: the despair

- There are lots of versions of it and it is all pretty confusing
- Those who implement PBL are not often popular
- PBL is not usually well supported by experts who like to control and patrol knowledge




Lots of versions

5 models
8 modes
6 types
Huge debates



Not supported by experts who like to control and patrol knowledge

- It upsets discipline-based pedagogies
- It introduces disjunction for both staff and students
- Might be dangerous



Reasons to be cheerful: the promises

1. PBL enables students to understand their own situations and frameworks
2. PBL helps students perceive how they learn
3. PBL is a troublesome space
4. PBL is a threshold concept



1. PBL enables students to understand their own situations and frameworks

- Challenges them to consider what counts as knowledge
- Engages them with prior experiences of learning and impact on current learning
- Encourages them to consider what counts as teaching
- Promotes them to question their identity as a learner and future professional
- Helps them to take a stance towards knowledge and see it as contestable



2. PBL helps students perceive how they learn

Engages them with questions about their pedagogical stance:

The ways in which people see themselves as learners in particular educational environments



3. PBL is a troublesome space

Troublesome spaces are places where 'stuckness' or 'disjunction' occurs.

For both academics and students, becoming stuck in learning is often seen as deeply problematic rather than as being useful and transformative.



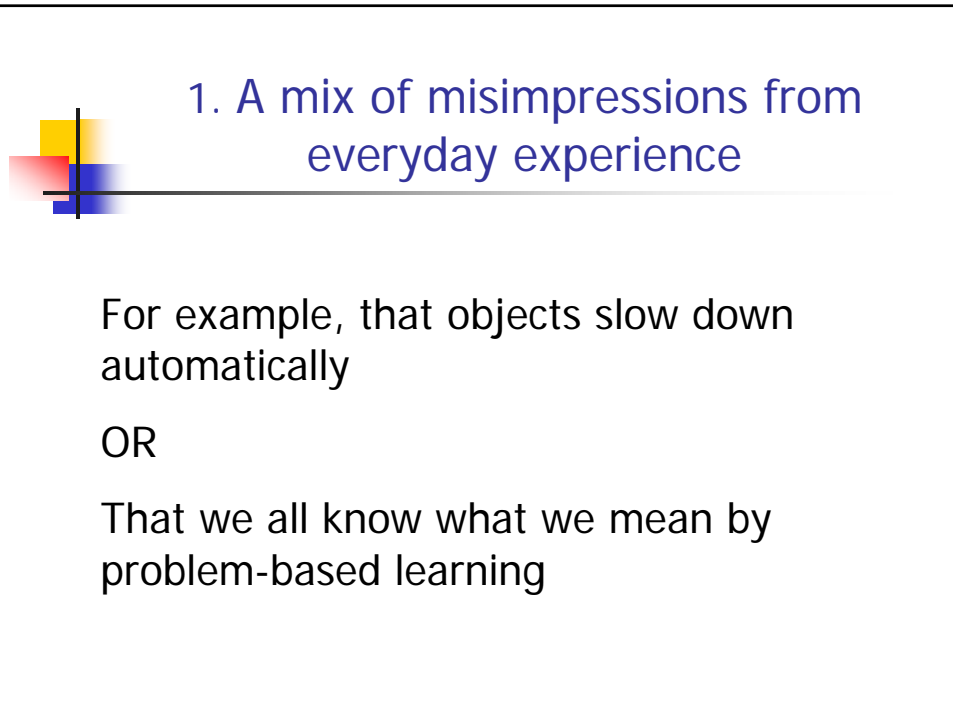
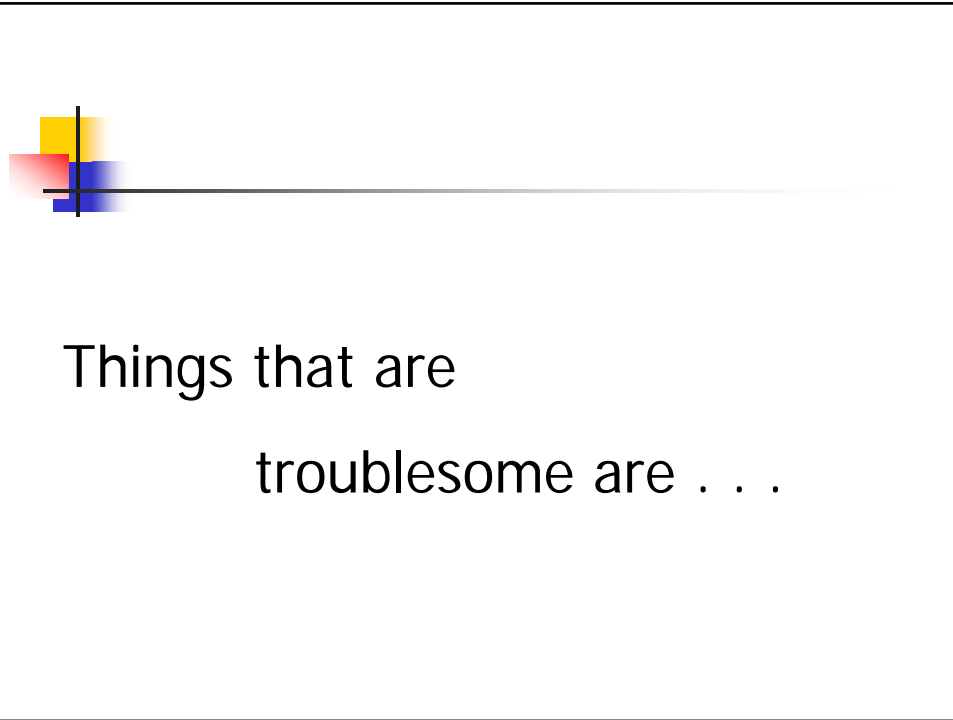
Perkins (1999) refers to *troublesome knowledge* as knowledge that is 'alien', or counter-intuitive or even intellectually absurd at face value. . .

For example.....



His priority did not seem to be to teach them what he knew, but rather to impress upon them that nothing, not even... knowledge, was foolproof.

Rowling, J.K
Harry Potter and the Order of the Phoenix



2. Reasonable but mistaken expectations

For example . . . implementing problem-based learning in pure maths is impossible

OR

heavier objects fall faster



Focus here on 2 catalysts:

- Modes of knowledge
- Troublesome power

4. Problem-based learning is a threshold concept, because it prompts disjunction in the mind of the student





Disjunction is a
little like hitting
a brick wall
in learning



Meyer and Land (2003) have argued
for the notion of a 'threshold
concept,'

. . . the idea of a portal
that opens up a way of thinking that
was previously inaccessible.

Characteristics of threshold concepts are:

- 1. Transformative – resulting in a significant shift in the perception of a subject or set of ideas**
- 2. Irreversible – thus the position that is reached ultimately may be rejected but not returned to**
- 3. Integrative – illustrates how ideas or knowledge are linked together not formerly apparent**
- 4. Bounded - so that the new 'space' that has been entered has frontiers that border with other threshold concepts**
- 5. Troublesome – difficult to teach, something that may be counter intuitive or seem to be incoherent.**



4 'but' clauses

- Problem-based learning is contested ground
- Issues of identity, knowledge and power become contested spaces
- Personal and pedagogical shifts may occur for students and staff
- Once you have gone over the threshold you can't come back

Thus, PBL introduces questions about liminality:

- A betwixt and between state
- A state of transformation
- A place beyond the threshold

In conclusion: Learning through PBL is a bit like becoming a roast potato

