Case Based Learning in the Sciences
Sheridan Center for Teaching & Learning
Cases: what they are/are not

• Active, investigative approach to learning
• Interactive, often discussion-based
• A way to see whether students can apply scientific thinking
• Often touches on broader societal, ethical issues

• Not replacement for lectures – not meant to cover large amounts of new information
• Not prescriptive (but guided)
an androgen, or male sex hormone

methyl group oxidation

CH₃

O

H

testosterone

CH₃

O

H

an estrogen, or female sex hormone

aromatase

-HCO₂H

estradiol

O

H

O
Kermit to Kermette
A VALUABLE REPUTATION

After Tyrone Hayes said that a chemical was harmful, its maker pursued him.
by Rachel Aviv

In 2001, seven years after joining the biology faculty of the University of California, Berkeley, Tyrone Hayes stopped talking about his research with people he didn’t trust. He instructed the students in his lab, where he was raising three thousand frogs, to hang up the phone if they heard a click, a signal that a third party might be on the line. Other scientists seemed to remember events differently, he noticed, so he started carrying an audio recorder to meetings. “The secret to a happy, successful life of paranoia,” he liked to say, “is to keep careful track of your persecutors.”
Case Based Teaching & Learning

• Instructor-guided
• Discussion-based
• Inquiry-driven
Learning objectives

• What do you want students to learn from the case?
• What are the key issues that can be explored through the case?
Development and preparation

• How the case will be introduced (what is the scenario that you will be providing?)

• Preparation expected of students (readings? watching a video? written prompts?)

• Length of time of the case (one class session? several class sessions? group work outside of class?)

• How will you structure the case so that it unfolds progressively?

• How will you conclude the discussion? (this does not mean there should be a single “right answer”)

• How will you assess (grade) the students? (will it be graded?)
Guide your Students

Step 1
• Identify and articulate key problem/issue

Step 2
• Review and organize information

Step 3
• Determine what additional information/resources we need to find
Step 1
• Identify and articulate key problem/issue

Step 2
• Review and organize information

Step 3
• Determine what additional information/resources we need to find
Student Expectations: What is a case and how will you learn from it?

- Preparing for class
- Participating in class discussion
- Do they need to conduct supplementary research?
- Collaboration
- Next steps after class
Instructor

• Continuous feedback
• Reflect on student responses:
  – can the case be developed further?
  – should it be broken down into several discrete phases?
9 July 2002

The Managing Director
Unisearch Limited
14 Barker Street
UNSW Sydney NSW 2052

Dear Madam,

Since my recent conversation with you, our Board has met with The Pig Farmers Association of Australia. We have proposed the following consultancy brief for your experts. We would be glad of a comprehensive response by 18 October, as we wish to bring maximum political pressure to bear on the Minister (our local member) when he visits Griffith for a conference on Pig Farming in Australia.

Yours sincerely,

D Caloway

D Caloway
Executive President