So, we want our students to be...

...critical and creative scholars!

But what does this mean?

A critical scholar should be a good critical thinker.

What do we DO when we engage in critical thinking?

- DISPLAY CERTAIN DISPOSITIONS / ATTITUDES TO LEARNING
- APPLY CERTAIN SKILLS
What is Critical Thinking?

A traditional definition:
A mode of thinking by which we:
- question beliefs and assumptions
- evaluate information / evidence
- draw conclusions about reality
in order to establish truth.

‘Establishing’ Truth

Hypothesis = opinion (belief) about what is true.

Any hypothesis is provisional: it holds true only until a better explanation is found.
(Adapted from Karl Popper, Conjectures and Refutations, 1963)
A possible functional definition

Critical Thinking
- intellectually disciplined process
  - of analyzing and evaluating information
    - gathered from (or generated by)
      - observation
      - experience
      - reflection
      - reasoning
      - communication
    - and using it as a guide to
      - belief
      - action

What is critical thinking?

Doing critical thinking wisely:

“If we can *analyse* clearly the basis of what we take as true, we are more able to *discern* when it is reasonable to be *trusting* and when it is useful to be *sceptical.*”

(Cottrell, 2005)

Critical Thinking Skills

1. Interpretation
2. Analysis
3. Evaluation
4. Inference
5. Explanation
6. Self-regulation
7. Metacognition

(Facione, 2006)
Critical Thinking...

... provides guiding principles for:

a. identifying elements of an argument (e.g., contention, reason, objection, rebuttal)
b. evaluating evidence, premises and inferences
c. providing explanations for phenomena
d. interpreting other people’s reasoning
e. interpreting, challenging and improving our own reasoning

A Success Story

Sweet business success for Brad Sugars has come on the back of a belief he formed as a child: do the work once and get paid for it forever.

“It has to be fundamentally the core philosophy of running a business”, says the founder of Action International Business Coaching, which operates in 19 countries and is ranked in Entrepreneur magazine as the 16th fastest-growing franchise in the world.

The concept of hourly rates is an anathema to Sugars, who first showed entrepreneurial zeal as a seven-year-old when he sold his Christmas presents to his brothers. His early lesson? Do not sell anything you can lease – that way you keep the present and get paid over and over again.

For Brisbane-born Sugars business models are crucial. “Find the gold rush and sell pans”, he explains.

(Adapted from ‘Empire Builders’, in Management Today, March 2006)

Asking critical thinking questions

Example:

In your opinion, how can Brad Sugars’ business success best be explained?
The Act of Explaining

**Explain**

= indicate or tell in a way that is clear and gives details...

(Crossling & Murphy, 2000)

...about *why* something happens or is the case.

Good Explanations

**Some criteria:**

1. Is it likely? Is there a critical mass of data confirming the hypothesis?
2. Is it relevant? Can a causal connection be made?
3. Is it the closest explanation? Is the cause described the closest source of the effect observed?

Possible Explanations

1. selling one’s own Christmas presents to siblings
2. showing entrepreneurial zeal at a young age
3. measuring work in performance (job done) rather than hourly rates
4. leasing instead of selling (the franchising principle)
5. identifying market/ consumer needs and providing goods/services in response to these needs in a timely manner
Key Question... for the student

What can we do to improve the given explanations?
- research the evolution of Sugars’ business and its historical context
- identify variables that correlate better with the observed outcomes
- research previous explanations of business performance (current theories)
- examine and evaluate the analytical methods employed by these theories
- identify which theories display better explanatory power than others, using critical thinking criteria for good explanations

Explaining Business Performance

- Peters & Waterman, In Search of Excellence (1982)
- Kotter & Heskett, Corporate Culture and Performance (1992)
- Collins & Porras, Built to Last (1994)
- Collins, Good to Great (2001)

‘The Mother of All Business Questions’

‘Anyone who claims to have found laws of business physics either understands little about business, or little about physics, or both’.

Phil Rosenzweig, The Halo Effect (2007)
Key Question... for the teacher

**When did we start teaching critical thinking?**

Purpose

Critical Thinking Forum

- Provide a collaborative space for all teaching staff in the Faculty to share experiences and ideas about how critical thinking is and should be practised (learnt and taught)

Objectives

Critical Thinking Forum

<table>
<thead>
<tr>
<th>What?</th>
<th>topics, issues, skills</th>
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</thead>
<tbody>
<tr>
<td>Who?</td>
<td>source disciplines, resources for learning</td>
</tr>
<tr>
<td>When?</td>
<td>e.g. beginning of program, later in program, on going</td>
</tr>
<tr>
<td>Where?</td>
<td>e.g. embedded in discipline units, as separate unit, both</td>
</tr>
<tr>
<td>How?</td>
<td>approaches to learning and teaching specific skills</td>
</tr>
</tbody>
</table>
Proposal

- Teaching staff in the Faculty to meet, on a voluntary basis, every month during teaching periods
- Interested colleagues to present experiences and findings from their own adventures with critical thinking tasks and questions

Discussion