Critical thinking
what it is and why it matters
Outline of presentation

• The key aspects of critical thinking
• How to apply critical thinking to reading for university
• How to judge whether something is well-argued
• How to critically evaluate research
Critical thinking is a key skill at university

“the world is flat”
“coffee is better than tea”
“this is the best flat for you”

Don’t take things at face value.
Ask questions

Is it true?
How do you know?
What do you need to know to evaluate it?
Critical thinking affects all aspects of study

Ideas for Assignments

Reading

Writing
Critically consider your ideas for an assignment

**Focused**
- all content relevant

**Comprehensive**
- considers all key reasons

**Even-handed**
- opposing views treated fairly

**In depth**
- reasons thoroughly considered
Critical reading model

**Argument:**
- What is the main argument?
- Is the main argument clear and logical?

**Evidence:**
- What is the evidence?
- Is the evidence valid?
- Does the evidence support the conclusions?
Judging an argument

Good argument
• Clear
• Logical structure
• Even-handed

Poor argument
• Unclear
• Flawed reasoning
• Biased
Activity

• Read the selected source (abstract)

• What is the author’s argument?
Questioning

• Why should I believe this?
• Does this claim need evidence to support it?
• What evidence would someone need to provide for me to think that this is probable/dependable?
Look for the evidence

- Statistics
- Case histories/studies
- References
- Findings from experiments
- Data from surveys
- Questionnaires
A checklist can help you to critically evaluate sources

Critical thinking signpost

https://libguides.tees.ac.uk/critical_thinking
Activity

• Use the worksheet to help you evaluate the selected source
• For your What/Who/When questions, focus on the information about the source and the abstract (all on the first page)

• If you get time, try to answer your How questions. For this you will need to read Section 2: Methods
• For question 11, see also Section 4: Discussion
Answers for Checklist for Critical Evaluation

WHAT

1. What type of source is it?
   A: Journal

2. Has it been peer-reviewed?
   A: Can’t tell from article, would need to go to ‘guide for authors’ in journal (it is) or check in Discovery.

3. Is it a primary or a secondary source?
   A: Primary : reporting author’s own research

4. Is it UK-based?
   A: Yes
WHO

5. What are the author’s credentials?
A: From reputable organisations eg Research, Universities can’t see if written anything else from article, would need to search authors

6. Does the author have an agenda or bias?
A: No mention of being sponsored
Answers for Checklist for Critical Evaluation

WHEN

7. When was it published?
A: 2007 publication, not clear when study carried out

8. Is there any bias based on the time of publication?
A: Have students changed since 2007? For example, alcohol, exercise. Assumptions about student living too eg that halls catered for (p551)
Answers for Checklist for Critical Evaluation

HOW

9. Is it based on evidence?
A: Yes.

10. Does it use a recognised method?
A: Questionnaire used International Health and Behaviour Survey for questions about food, alcohol and 10 questions from Undergraduate Stress Questionnaire.
Answers for Checklist for Critical Evaluation

HOW

11: Are there any flaws in how the method was used?

A: See Limitations section (Discussion p.552) They collected stressors only within last two weeks – is that enough? Weight change data were collected by self-report. Perceived weight change may have been affected by social desirability bias and therefore may not have reflected accurate weight measurements. Questions about the short version of the USQ scale

12: Does the data support the findings?

A: Yes, statistical tests were included and explained (Results pp.550-551)
Answers for Checklist for Critical Evaluation

HOW

13. Who were the participants?
A: Convenience sample from one university only. They are first year students, coming up to the end of first year. Does research reflect their early first year experiences? 268 students out of 3500, so you can work out the proportion of the sample.

14. Does it try to be balanced?
A: Yes, it reports weight loss as well as weight gain.

Overall, is it reliable enough to be useful?
A: Yes, apart from date of article
Critical writing model

**Argument:**
- What is your main argument?
- Is the main argument clear and logical?

**Evidence:**
- What is your evidence?
- Is the evidence valid?
- Does your evidence support the conclusions?

• Relate this to your own writing
Other resources


[Electronic book](http://www.tees.ac.uk/depts/lis/infoskills_gen/critical/exercise.cfm)


[http://www.tees.ac.uk/depts/lis/infoskills_gen/critical/exercise.cfm](http://www.tees.ac.uk/depts/lis/infoskills_gen/critical/exercise.cfm)