The ‘Critical’ Literature review

Critical Writing
MECH4500 / Postgraduate

Rowan Truss
School of Mechanical and Mining Engineering

Semester 1, 2012
What it’s not!

• Precise of all the papers you have read
• Precise of papers relevant to your topic
• General description of the state of the art in the area

_These are little more than a Google search!_
What is meant by ‘critical’?

Ref: Anon, UNSW The learning Centre Academic Skills resources
http://www.lc.unsw.edu.au/onlib/critrev.html
date accessed 5/04/2012

“At university, to be critical does not mean to criticise in a negative manner. Rather it requires you to question the information and opinions in a text and present your evaluation or judgement of the text. To do this well, you should attempt to understand the topic from different perspectives (i.e. read related texts) and in relation to the theories, approaches and frameworks in your course.”
How to critically analyse previous work: some hints which might be useful

Ref: Anon – University of Queensland Student Services:
• http://www.uq.edu.au/student-services/examples-critical-analysis
• date accessed 5/04/2012
Overgeneralisations and assumptions

- Researchers often make simplifying assumptions when tackling a complex problem. While the results might provide some insight, these answers will also likely have some limitations.

Example:

“Students responded well to the teaching strategy and measures of performance and motivation showed significant improvements. These improvements may in part be the result of the small class sizes in the study and may not necessarily occur in larger mixed ability classes.”
Methodological limitations

• Researchers may simplify the conditions under which an experiment occurs, compared to the real world, in order to be able to more easily investigate what is going on.

Example:

“While studies by Smith (1999), Brown (2000) and Green (2003) generally claim that women are superior to men at understanding body language, Wright (1998) has found no difference. Furthermore, methodological problems raise questions about the positive results. For example, Brown’s (2000) work looked solely at facial expressions asking participants to make judgements by looking at photographs. Whether these findings would be valid in real-life situations was not explored...”
Objectivity of research

• Some research may be biased in its structure.

• Example:

“These findings suggest that property developers are primarily concerned with land use issues, however, this may be more a reflection of the questions participants in the survey were asked than it was a reflection of their primary concerns since no open ended questions were asked.”
Limitations due to sample group

• Limitations can arise due to participant numbers.

Example:

“The fact that 80% of students were satisfied with this mode of teaching is significant, however it is important to note that only 20 of the 150 students in the class completed the questionnaire.”

• Limitations due to variance in the test data
Limits to applicability

There can be concerns with studies’ applicability, for a number of reasons.

Results not replicated

• One such reason could be that the study results have not been replicated in any other study. If results have not been replicated, it indicates that the results are suggestive, rather than conclusive.

Example:
“The use of band aids as an effective treatment for leg ulcers has the advantage of being cost efficient, however, since the finding has not been replicated in other studies, practitioners may need to be cautious about applying this treatment until there is more evidence to support the finding.”

Long term effects unknown

• There would be limits to applicability if long term effects have not been tested.

Example:
“Clients showed improvements in self esteem after the treatment, however no long term follow up measures were taken.”
Limits to applicability

Omissions

• It is important to look for things that have not been discussed within studies to ascertain whether this would limit the applicability of the results.

Example:

“Brownlee and Whitely (2005) and Longley (2004) showed that economic buoyancy is related to debt free spending, however neither of these studies considered the impact of employment rates on economic buoyancy. It seems likely that employment rates could significantly affect this aspect of the economy.”
Correlation vs. causation

• It is important to be aware that just because one variable is correlated with another, it doesn’t necessarily mean that one variable is the cause of another.

Example:

“It is known that married people tend to live longer than unmarried people. Is this because in general marriage has health-giving benefits, or is it because unhealthy people with chronic illnesses are less likely to get married than healthy people?”
What does critical writing deliver?

It maps out the space for your research:

• Question unanswered
• Establishes discrepancies and controversies and possible approaches to resolving them
• Defines limits of current knowledge and suggests new areas where it may be applied
• Explains why your proposed work is worth doing
Summary

• Your literature review should “critically” assess the current literature and work in the area

• It helps you to state the **aims** of your research i.e. it poses the **research question**

• it helps to define the **scope** of your proposed work