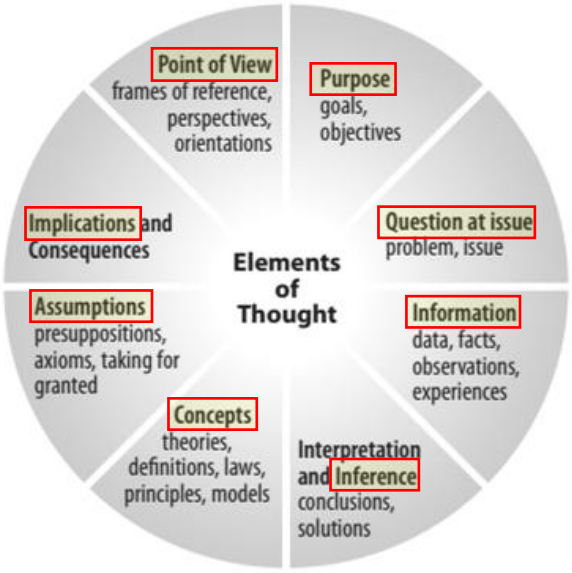
ES2631 Critique and Communication of Thinking and Design
Semester I AY 2025/26

A2 & A3 WRITTEN CRITIQUE CHECKLIST

ELEMENTS OF THOUGHT



Adapted from p.4 of Paul & Elder's "The Miniature Guide to Critical Thinking Concepts and Tools" (2008)

INTELLECTUAL STANDARDS

1 Clarity
Could you elaborate further?
Could you give me an example?
Could you illustrate what you mean?
"Understandable; the meaning can be grasped" (p. 21)

2 Accuracy
How could we check on that? fact-check / cross-check
How could we find out if that is true?
How could we verify or test that?

3 Precision
Could you be more specific?
Could you give me more details?
Could you be more exact? to the *necessary* level of detail

4 Relevance
connect element A and element B, where B can be other
How does that relate to the problem? elements besides
How does that bear on the question? "question at issue"
How does that help us with the issue?

5 Depth
What factors make this a difficult problem?
What are some of the complexities of this question?
What are some of the difficulties we need to deal with?

6 Breadth
Do we need to look at this from another perspective?
Do we need to consider another point of view?
Do we need to look at this in other ways?

7 Logic
Does all this make sense together?
Are we taking a reasonable approach to the problem?
Does what you say follow from the evidence?

8 Significance
Is this the most important problem to consider?
Is this the central idea to focus on?
Which of these facts are most important?

9 Fairness
Am I considering the views of others in good faith?
Am I accurately representing the viewpoints of others?
Is there an ethical component to this issue that we are avoiding for reasons of vested interest?

Adapted from p.25 of Paul & Elder's "The Thinker's Guide to Engineering Reasoning" (2013)

Prepared by Wong Wei Li

ES2631 Critique and Communication of Thinking and Design
Semester I AY 2025/26

A2 & A3 WRITTEN CRITIQUE CHECKLIST

INTRODUCTION
1) Type of work: presentation or article)
2) Title of work
3) Name(s) of presenter(s) or author(s)
4) Summary of key points
5) Thesis statement
6) Suggested length: <80 words

1

Title of work and names count as 1 word each (manually deduct from total word count)

An **(1)** oral presentation on **(2)** "Renewables in Nicaragua" was delivered by **(3)** Azhar, Jia Ling, and Subash. **(4)** The presentation described the problem of the lack of clean energy for Nicaraguan rural house, their purpose to power such houses with sustainable and clean energy, and their proposed solution comprising a micro-hydroelectric project and solar panels. **(5)** Based on the Engineering Reasoning Framework, this essay will critique the **concepts**, **information**, and **assumption** used in the presentation.

+VE EVALUATION
1) Topic sentence:
   - 1a) element of thought
   - 1b) example(s) of element from work
   - 1c) stand (showed X)
   - 1d) intellectual standard
   - 1e) lead-in statement
2) Key words from "intellectual standards" questions
3) Evidence from work
4) Suggested length: <130 words

2

(1) The presentation highlighted **(1a)** **concepts** on **(1b)** voltage, current, resistance, Ohm's Law, and electricity versus hydraulics. **(1c)** These concepts showed **(1d)** clarity, **(1e)** as each one was defined and **(2)** elaborated on with details. For instance, the presentation ensured that the concept of resistance was clear through explaining that it **(3)** related to the level of difficulty that electrons faced in going through a circuit, as well as showing its **(3)** representative symbol, so that it is **(2)** easily recognisable in an electric circuit drawing. In addition, the **(3)** formula for Ohm's Law was given to show how voltage relates to current and resistance. To further enhance the clarity of the concepts, they were **(2)** illustrated through a **(3)** comparison between an electric current and a hydraulics system.

+/-VE EVALUATION
1) For the second body paragraph, you may choose either another positive evaluation or a negative evaluation.
2) 2 x negative evaluations strongly recommended to showcase criticality
3) For negative evaluation, see below

3

The presentation used **information** on the number of . . .

. . .

. . .

. . .

. . .

-VE EVALUATION
1) Topic sentence:
   - 1a) element of thought
   - 1b) example(s) of element from work
   - 1c) stand (lacked X)
   - 1d) intellectual standard
   - 1e) lead-in statement
2) Key words from "intellectual standards" questions
3) Evidence from work or external source(s)
4) In-text citation for external source(s)—counts towards word count
5) Recommendation for improving (1c); due to space constraint, you may focus on just one recommendation for the whole essay
6) Suggested length: > +ve evaluation

4

"Explicit" if the assumption is explicitly stated by the work
"Implicit" if it is hidden and reasonably inferred by the critic (you)

(1) The presentation made an implicit **(1a)** **assumption** that **(1b)** there would only be clear skies in the application of the solar panels, so that there would be maximum output power from the solar panels. **(1c)** This assumption lacked **(1d)** depth, **(1e)** since it did not consider the **(2)** complexities that relate to climate and weather changes. **(3)** Nicaragua not only has a wet season from May to October, but the country also faces typhoons and hurricanes due to its geographical location **(4)** (Climate Change Knowledge Portal, 2021). Thus, during the wet season, it would be difficult for the solar panels to able to receive the maximum amount of sunshine to provide sufficient electricity to power a rural house. Furthermore, the assumption was supported with **(3)** an example of two solar panels supplying energy for a house with four LED lights, a television and a household fan. This example failed to account for households with more electrical appliances than these, where the use of two solar panels would likely be insufficient even on days with clear skies. **(5)** To improve their argument, they could . . . For example, a **(3)** report by Nicaragua Nonprofit Network **(4)** (2021) stated that . . . which . . . By considering this evidence, the assumption would show greater depth as it . . .

Sample writings adapted from ES2631 Week 7 Lecture (Part 2) Video on "Critique of Engineering Design"

Prepared by Wong Wei Li

ES2631 Critique and Communication of Thinking and Design
Semester I AY 2025/26

A2 & A3 WRITTEN CRITIQUE CHECKLIST

CONCLUSION

1) Summarise key stands of all the evaluations
2) Suggested length: <30 words
3) Include total word count
4) Ensure that you do not exceed the absolute upper limit of 600 words; there is no further 10% allowance
5) Note that parenthetical in-text citations count towards the total word count

5

In conclusion, the essay argued that the **(1)** **concepts** were clear, but the **information** lacked accuracy and the **assumption** lacked depth.

(3) (**600** words)

REFERENCES

1) Format in APA style
2) This section does not count towards the word count

References

Climate Change Knowledge Portal. (2021). Nicaragua current climate: Climatology. https://climateknowledgeportal.worldbank.org/country/nicaragua/climate-data-historical

Nicaragua Network Profit. (2021) . . .

AI USE DECLARATION

1) This section does not count towards the word count
2) If AI is used for the assignment, please include the necessary information in tabular form (see right)
3) See Week 3's "3b) AY24_25 S1 ES2631 Week 3 Source Types Selection Integration and Attribution Handout" on how to fill in the table

AI use declaration

I [**insert full name**] declare that I **have/have** not used generative AI in the process of completing this assignment. If I have used generative AI in any way to complete the assignment, this use has been documented in an appendix submitted with my assignment.

AI Tool Used	Prompt and output	How the output is used in the assignment
. . .	. . .	. . .