Critical Reading and Analysis with Text Annotations in a Blended Learning Environment
Introduction – Unpacking the Title

- Reading
- Strategic Instruction
- Blended Learning
- Metacognition
Lam’s (2015) study aims to understand how explicit instruction shapes the metacognitive knowledge use of learners and whether this knowledge promotes self-regulation in learning of writing.

It emphasised “the significance of cognitive monitoring (i.e. metacognitive knowledge and experience) in facilitating learners’ language development in the composing process” (Lam, 2015, p. 532).

Results of the research indicate that explicit strategy instruction in writing was likely to make students more self-regulated, strategic, and resourceful in coping with diverse writing tasks (Lam, 2015, p. 527).
According to Chamot (2009, p.54) “metacognition consists of the learners understanding of his or her own knowledge and thinking processes and the learners ability to regulate his or her own learning”

Foregoing research shows that the teaching metacognitive learning strategies in content courses improve student’s learning; however, few educators at tertiary education explicitly teach such strategies.

Chamot (2009, p.55) further argues that “good language learners have a range of learning strategies to call on”. Furthermore, they know “how to select and implement strategies that are appropriate for the task”.
“To apply critical reading and viewing by focusing on implied meaning, higher-order thinking, judgement and evaluation”

...to employ strategies teaching like the following; (i) use prior knowledge (ii) use contextual clues (iii) ask questions at different levels about the texts read or viewed (iv) make predictions (v) note and recall main ideas and key details (vi) make inferences
Applications in other disciplines

- ... annotations generally leads to improved learning (Jones & Plass, 2002; Plass, Chun, Mayer, & Leutner, 1998). However, it can increase learners’ cognitive load and may thus result in reduced learning (Brünken, Plass, & Leutner, 2004; Sweller, 1999).

  - the impact of annotations on learner comprehension of textual information of scientific content, the cognitive load caused by multiple types of annotations, and the impact of verbal ability on learning with annotations
  - Using these annotations, they are able to understand the concept in question, and thereby comprehend a text that might otherwise have been too complex for their level of prior knowledge.

- Effects of reviewing annotations and homework solutions on math learning achievement (Hwang, Chen, Shadiev & Li, 2010)
  - possible effects that reviewing annotations may contribute to learning achievement. What influence does the review have over the learning process?
Develop your critical thinking and communication skills – both in terms of your mental capacity for analyzing ideas, information and arguments, and in terms of your ability to express those thoughts in writing.

- Apply critical thinking skills such as asking relevant and critical questions, evaluating and constructing arguments, identifying problems, analysing causes and finding solutions, thinking about your own reasoning.

- Present arguments and opinions in writing, give peer feedback and participate in class discussions by using critical reasoning.

- to use critical reasoning to identify arguments, retrieve and identify relevant and reliable information from readings and use it to form an argument.
Restricted to a Unimodal Form

Overarching Reading Strategies through Metacognitive Instruction

Need for Alternative Learning Task Designs

Harnessing the Affordances of a Blended Learning Environment
Research Question

- Do explicit instructions of using metacognitive strategies enhance students’ reading/writing performance?
- How can students’ understanding be enhanced at a deeper level in a blended learning environment?
In the module, students are assessed on the **deconstruction of argument** in their first assignment and the final examination. They need to **read a given text critically** and complete:

- Section C: Based on the graphic representation of the writer’s argument, **identify and evaluate ONE key argument** presented by the writer to support his main claim.

... tutors found that many were **unable to identify arguments** (and the relevant premises/evidences) accurately. Their **evaluation of the arguments were also weak and did not have high levels of criticality**. Feedback from markers at the end of the final examination in Semester 1 AY1718 also reported that **weaker scripts were often strictly limited and inaccurate responses, incomplete on multiple levels and often demonstrating an uncritical** (perhaps even naive) acceptance of premises.
Conceptual Model of Scaffolding
(van de Pol, Volman & Beishuizen, 2010)
The strategy within the scaffolding framework

<table>
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<tr>
<th>Contingency</th>
<th><strong>Apply strategies for learning that are contingent on student responses</strong></th>
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<tbody>
<tr>
<td></td>
<td>1) Tutor use think aloud to engage with a text (demonstrating the thought processes) and models the use of text annotation. (F2F).</td>
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<td>2) Tutor will elicit student responses on the identification of arguments and critical analysis of author’s intended meanings and use of evidences/information. (F2F)</td>
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<td>3) Based on students’ responses, tutor will tailor the think aloud and text annotation to show how to critically read and analyse the text. (F2F)</td>
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<tr>
<th>Fading</th>
<th><strong>Gradually removes (fades) support over time</strong></th>
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<tr>
<td></td>
<td>1) Tutor assign students to work in groups to critically read and analyse a text. (F2F or Online)</td>
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<td></td>
<td>2) Students collaborate to critically read and analyse a text, each annotating their identification of an argument or premise and critically analyse the author’s intended meanings or use of evidence. (F2F or Online)</td>
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<td>3) Tutor monitors students group work and provides support whenever necessary. (F2F or Online)</td>
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## The strategy within the scaffolding framework

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<th>Transfer of Responsibility</th>
<th>Transfers the responsibility from tutor to student for completing a particular task</th>
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<td>3) Students present their annotated texts and explain their choice of identified arguments and critical analysis of author’s intended meanings and use of evidences/information. (Online)</td>
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<td></td>
<td>4) Students conduct peer review exercise. Students give comments on other group’s annotations. Pose critical questions and provide justifications on whether they agree or disagree. (Online)</td>
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<td>5) Tutor gives feedback. (Online)</td>
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Tutor think aloud and modelling of critical reading strategy using text annotations (Contingency stage)
Contingency: Faculty Modelling

Does helping the planet hurt the poor?

By Peter Singer
Wall Street Journal
January 22, 2011

All of us who are middle class or above in the U.S. and other industrialized nations spend money on many things we do not need. We could instead donate that money (one of the KAs?) to organizations that will use it to make a huge difference in the lives of the world's poorest people—people who struggle to survive each day on less than we spend on a bottle of water. For decades, that is what I have been advocating we should do.

But (hint of a KA coming up) this concern for the poor appears to be in tension with the need to protect our environment (KA1). Is there any point in saving the lives of people who will continue to have more children than they can feed? Do rising populations in developing countries not increase the pressure on forests and other ecosystems? Then there is climate change. How would the world cope if everyone were to become affluent and match our per capita rate of greenhouse gas emissions?

I take these questions very seriously. My first popular book, "Animal Liberation," published in 1975, argued that we should extend our ethical concerns beyond the boundary of our species. In Australia, my country of birth, I was a founding member of the Australian Greens, so balancing poverty reduction and environmental values is important to me. The problem is how to do it.

Part of the answer—the easy part—is that poverty reduction and environmental values often point in the same direction (part of a KA2 after arguing that there is a tension). It is simplistic to assume that helping more children to survive to reproductive age is bound to increase population in poor countries. Poor parents often have large families so that at least some of their children will survive to take care of them in old age. As parents grow more confident that their children will live to adulthood, they have fewer children, and if reducing poverty makes it possible for families to send their children (especially their daughters) to school, all the evidence indicates that their children will have smaller families.
This paper identifies that Hu
problem can be addressed i energy demand. On one ha of new energy sources and
other hand, energy demand energy consumption which

Hubei

https://books.google.com.sg
query=scarcity%22+definition&qwthl=en&as_xsived=Oahi
page&q=%22energy%22+isc

According to Professor Mic, namely physical scarcity, g dimension which is most rel whereby insufficient energy shortages. Hubei is clearly l unable to cater to its demand scarcity problem. Firstly, Hu when households tend to cc conditioner for prolonged p go up to more than 40 deg value, Hubei government w. Secondly, Hubei government intiated the Xiyuan into it. Unfortunately, it after the Fukushima nuclear Hubei is still trying to obtain urgent need of new energy:

http://news.cn.cn/sywh201

http://www.iea.org/aboutus/facts/coal/

http://www.stats.gov.cn


Another cause of energy scarcity in Hubei is on the demand side. Over the past few decades, energy demand has increased drastically due to increasing energy usage, causing energy shortage. Growing population, urbanization, increasing dependency on electrical appliances and industrialization are the main factors that contribute to the increasing energy usage in Hubei. From 2000 to 2014, the population in Hubei increased by 1.7 million and this translates to a huge rise in the number of energy consumers. In addition, large number of villagers from rural areas are gaining access to energy as they migrate to modern cities. For instance, Wuhan, the capital of Hubei, is estimated to have more than 2 million workers originally from rural villages as of 2011. Furthermore, as technology advances, people are consuming more energy as their daily life becomes more dependent on energy-consuming processes such as using smartphones and laptops, watching television and even cleaning the house with a vacuum cleaner. With more energy users consuming increasing amount of energy, it is not surprising that the total public energy usage in Hubei has increased from 113.5 billion kwh in 2009 to 166.5 billion kwh in 2015. Another significant contribution to Hubei’s increasing energy usage is actually industrialization. Over the years, China has been developing its industries and Hubei is no exception. According to Hubei Economy and Technology Commission, the annual industrial power consumption in 2009 was 79.95 billion kwh and this value has increased to 109.4 billion kwh in 2015. With such high overall energy usage, it is crucial to reduce the percentage of energy wastage in energy consumption processes to minimize the absolute energy wasteage and control the increase in energy demand.

http://www.hbec.gov.cn/qjyh/hbjy/88289.htm
http://www.hbec.gov.cn/w2z/hbjt/info/4581.htm
www.stats.gov.cn

Framework

1. Energy Output
Energy output is defined as the energy a body yields when functioning. This is essential because we need to supply enough energy output to match the needs of the market.

2. Energy Efficiency
Efficiency = \frac{\text{Useful energy output}}{\text{Total energy output}} \times 100\%

Nadya Shaznay Patel

- I'm a little confused about these 3 dimensions. Why are the other 2 dimensions not important in tackling the issue? Maybe we can elaborate a little more to make it clearer why the focus is on the third one only.

Nadya Shaznay Patel

- Framework could have been brought more into play for solutions. Current writing was not oriented to answer framework issues.

Nadya Shaznay Patel

- In the main cause you only state one reason being the lack of resource for energy production. Point 2 do not show a lack of resource rather a lack of development of infrastructure in tapping the potential. Point 3 shows an increase in demand. It might be better to expand the main cause so that all the premises can link back.
In his article “Does helping the planet hurt the poor?”, Singer (2011) argues that with the cooperation of developed countries, it is possible for saving the environment and helping the poor to co-exist. He supports this main claim with three key arguments.

In his first key argument, he contends that there is tension between economic development and environmental conservation. His first premise states that development projects provide jobs at a high cost to nature. His second premise brings about to light the necessity to implement cost-benefit analysis for the issue as allocating a value to the poor or the forests has proven to be prone to error.

In his second key argument, he asserts that decreasing carbon emissions is a priority. This is highlighted in the statistical evidence he provides from WHO that global warming resulted in 140,000 deaths from 1970 to 2004. Moreover, the UN’s IPCC found that a rise in temperature by 2 to 2.4 degrees Celsius would jeopardize water supplies to 1.2 billion individuals and put 16 million more in danger of coastal flooding.

In his third key argument, he concludes that the onus is on developed countries to be pioneers in lowering ‘luxury emissions’ and to provide monetary aid to the poor. He endorses his argument by pointing out that developed countries like the US have less people living in extreme poverty, and have also been major emitters of greenhouse gases, both in the past and currently (Carbon Equity Report) and present. Thus, they are obligated to do so.

For the third key argument, he argues that developed countries should take up the responsibility of decreasing their greenhouse emissions for they producing the majority emission both in history and nowadays. Thus, he suggested that the limitation of greenhouse emission should be based on a capita basis, average emission of all the citizens. He also emphasizes that developed countries should try to lower their unnecessary high-cost emission like traveling by air instead of only pursuing the poor countries to substitute their energy.
Students collaborate to critically read and analyse a text (Fading stage)
Lomborg (2013) discusses in New Y dependency of people living in poverty environment. (discusses - reporting verb)
(Dependency on fossil fuels of the people Lomborg substantiates his main claim solutions.
("in the form of problems followed by s not the summary of the article)

1st KA

He contends that burning fossil fuels Organization’s study that 3.7 million people (no link between deteriorating climate a)

2nd KA

He further asserts that the poor are deep but not everyone is privileged enough to (how is this supporting the main claim?)
Fossil fuels would be imperative in the it is the impetus to eradicate poverty, for (how is this the premise for the key args)
The importance of fossil fuels are reflected estimated equivalent importance policies. (addresses fossil fuels as an essential have access to it)
Fossil fuel is the most effective and cost (premises - never show how it rely on f)

3rd KA

He also suggests that the developed world needs a smarter approach toward cleaner fuels and proposes hydraulic fracturing of natural gases as an alternative to energy resources. (Suggest - reporting verb)

Hardik

In his article - “The Poor Need Cheap Fossil Fuels, Lomborg (2013) argues that the developing nations should be allowed to use fossil fuels for their growth while the developed world focuses on the evolution of clean energy such that everyone can make use of it. Three key arguments were brought up to support his claim.

Firstly, he states that developing countries have the need for energy and face numerous problems due to the lack of it. He mentions that the poor cook in their homes using dirty fuels causing the premature death of 3.5 million. He cites how 1.2 billion people worldwide lack the access to electricity. He also comments on how 3 billion people still cook and heat their homes using energy inefficient methods.

Secondly, he asserts that it would be difficult for developing countries to cut carbon-dioxide emission because they are by-products of cheap energy sources. He states how China has moved 600 million people out of poverty by giving them access to coal-powered energy. He puts forward how the developing South African nation uses these fossil fuels due to its abundant and affordable nature in order to sustain their growth rates.

Lastly, Lomborg asserts that the developed countries should look into cheaper and cleaner alternative sources of energy. He postulates the United States about her approach towards hydraulic fracturing - consequently reducing carbon emissions significantly. He comments that these developed countries must step up their efforts into reducing the costs of clean energy to allow everyone to use it.

Comment [YC1]: We believe that this part is not the author’s main claim, it’s rather a KA which supports the main argument.
Comment [YC2]: It is not suitable to use “states” for the KA.
Comment [YC3]: Same as point 2
Comment [YC4]: Wrong interpretation of the article: it cannot be assumed that the polluted air come from cooking. The article only mentions that people breathe in polluted air.
Comment [YC5]: It is better to say “these nations are in need of the cheap energy sources for their development”. The fact that it is difficult to cut down emissions does not support the main claim of “they should keep using these cheap energy sources”.
Comment [YC6]: Maybe change to another verb
Comment [YC7]: Another premise might be included.
Comment [YC8]: The last sentence can be combined with the key argument.
Students conduct peer review exercise - give comments, pose critical questions and provide justifications on whether they agree or disagree

(Transfer of responsibility stage)
Results from post survey (98 respondents):

Before learning the critical reading and annotations technique, 66.3% found it rather challenging to deconstruct an article.

Applying the critical reading and annotations technique allows 91.8% to have a deeper understanding of the article.

Applying the critical reading and annotations technique allows 78.6% to deconstruct an article efficiently and accurately.
Results from post survey (98 respondents):

An overwhelming 95.9% found the critical reading and annotations technique (extremely and rather helpful) in allowing them to evaluate arguments effectively.

A majority 77.6% will be applying the critical reading and annotations technique in other modules whenever they are required to critically read a text.
Some of the qualitative feedback reported: How else has the critical reading and annotations technique helped you in this module?

It has helped me to filter out the important points from articles. It has also facilitated me when I am searching for a particular point or content from the article. I also feel that it has developed me into a critical thinker and I would be able to ask questions which could enable me to learn more effectively in the future. :) It allows me to identify quickly the problematic KAs, and evaluate it immediately without reading through the whole article again. It helps me to organise my thoughts along the way when I am reading the article. It allowed me to quickly pin point the KAs and premises in the article, and pen down the doubts i have which i can go back and refer to later on. this technique is easy to adopt and very systematic and it benefited me alot! Critical reading taught me how to scrutinise every sentences effectively and the annotation approach helps me pen down my thoughts in a brief mindmap-ish manner with clarity that make it easier for me to refer back to.
It has definitely helped me in understanding the article but not just in terms of the knowledge or information it gives me, but also the point of view or the position the author is writing from. Coupled with understanding the purpose of the author writing this article, it has definitely allowed me to understand the topic at hand better too.

It has helped me develop the habit of thinking of critical questions while reading instead of taking what the article says at face value.

In separating a source's key arguments, and identifying limitations for sources and my own arguments.

Process my thoughts better to know what to write for my essays very efficient way so i do not need to reread the passage

It makes it easier to spot the flaws in the article

It helps me to understand the article better by reading it critically

It helped me to deconstruct arguments easily

it helps us to identify the right question to ask.

Helped me to construct my own argument coherently
The success of the intervention taught as part of the action research is also reflected in the final assessment results.

40% of A’s 4 sectional groups, and 36% of B's 4 sectional groups achieved Grades A+/A/A-. This shows that the students were able to utilise the skills taught and perform well for their final examination.
The result of this study correlated with some of the previous studies (Cubukcu, 2008; O’Malley, 1987) and substantiates the principle of learning in which student’s self-awareness, comprehension and ‘composing’ ability can be enhanced by learning metacognitive strategies (Khun, 2000).

Increasing the use of strategies after receiving the instruction shows the value and usefulness of these strategies. Perhaps, a consistent training on these strategies could make the students be accustomed to using the strategies automatically when they critically read and analyse a text.

The information gained during FGDs regarding students’ perspective about learning metacognitive strategies shows that, students who become familiar with these strategies have positive perspective about the effectiveness of them.
Summary of Key Findings and Recommendations

Collaborative formulation of meanings and active sharing and presentations were greatly evident in dialogic discussions.

Blended environment allowed students to interact with one another in virtual communities of learners, engaged in meaning-making and constructing deep understanding.

Well-structured collaborative learning and teaching environment, strong pedagogical support and the provision of comprehensive scaffolding.

Demonstrate use of critical reasoning (critical reading and writing) by employing metacognitive strategies.