Applied Text Analytics

the need for human information interaction and cognitive approaches in learning contexts

Andrew Gibson
Lecturer, Information Science
Information Systems School, QUT
Natural Language Processing: what could possibly go wrong?

The Uncanny Valley
The panda eats, shoots and leaves.

https://www.flickr.com/photos/designwallah/2505478797
https://www.flickr.com/photos/confesschrist/
Aocddrnig to a rscheearch at Cmabrigde Uinervtisy, it deosn't mttaer in waht oredr the ltteers in a wrod are, the olny iprmoetnt tihng is taht the frist and lsat ltteer be at the rghit pclae. The rset can be a toatl mses and you can sitll raed it wouthit porbelm. Tihs is bcuseae the huamn mnid deos not raed ervey lteter by istlef, but the wrod as a wlohe.

http://www.mrc-cbu.cam.ac.uk/people/matt.davis/cmabridge/
Apple Chip

http://www.freakgeeks.com/iphone-4s-device-which-uses-the-a5-processor-is-in-tests/
Context

- More data?
- How big is a Labradoodle?
- How big is a piece of fried chicken?

https://www.reddit.com/r/funny/comments/6h47qr/artificial_intelligence_cant_tell_fried_chicken/
Perfect knowledge? Or hunch, gut feel, heuristics…
Brain in a Vat

The Matrix

http://matrix.wikia.com/wiki/Redpill
Anthropomorphising

- Brain as a computer
- Computer as a brain
Embodied Cognition

"Good news. The test results show it’s a metaphor."
Interacting with information for meaning

• Cooperative socio-technical meaning making
• Epistemic domains don’t map on the important most meaningful things
• How to relate? An abductive relation?

https://www.iphonelife.com/content/how-to-get-bicycle-directions-iphone
A transdisciplinary approach

- Limitations of deduction, induction, and the hope of abduction
- Ignorance preservation for true transdisciplinary work
- Inference as more than likelihood of match with knowledge
- Pragmatism and the transdisciplinary target
A transdisciplinary approach

Figure 1: Metacognition and reflection as a spectrum

Figure 2: Common features of metacognition and reflection

A transdisciplinary approach

doi:http://dx.doi.org/10.18608/jla.2016.32.3
<table>
<thead>
<tr>
<th>Depth</th>
<th>Intention</th>
<th>Integration</th>
<th>Internalisation</th>
<th>Interpretation</th>
<th>Impression</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>What am I going to do about it? In which direction do I head next? How do I want to change? What other ideas could I use to improve myself? How do others address these challenges? What do others suggest is a way forward? How can I learn from this past? What perspectives are best for me?</td>
<td>What impact will this have on me and my goals/aspirations? CAUSALITY: Impact on self in context</td>
<td>What do these feeling say about me? CAUSALITY: explanations for impressions and feelings</td>
<td>What does it mean for me? Why is it significant? COMPARATIVES CAUSALITY REFLECTIVE QUESTIONING, DEFINITION of issues</td>
<td>What do I notice about my situation? What is happening to me and around me? TEMPORAL LINKS,</td>
</tr>
<tr>
<td></td>
<td>What future benefits are likely to result from these changes? MODALS : will can, hope</td>
<td>What should I improve? Why do I need to improve? CAUSALITY: explain changed belief or approach, new understanding, competence, empowerment.</td>
<td>How is this a problem? DESCRIPTIVE NARRATIVE. How does this challenge me? CAUSALITY: affect of experience on self</td>
<td>Why do I feel this way? FEELINGS as a measure of expectations, surprise, uncertainty, lack of confidence etc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>How can I learn from the past? How can I learn from other perspectives? What perspectives are best for me?</td>
<td>How do I want to change? PREDICTION: change likely to lead to certain future benefits. MODALS : will can, hope</td>
<td></td>
<td>How can I improve? CITATIONS used to present a theory for self improvement. PAST/ NOW contrast to show change, learning.</td>
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**Notes:**
- **Human**
- **Integration**: What impact will this have on me and my goals/aspirations? CAUSALITY: Impact on self in context.
- **Internalisation**: What do these feeling say about me? CAUSALITY: explanations for impressions and feelings.
- **Interpretation**: What does it mean for me? Why is it significant? COMPARATIVES CAUSALITY REFLECTIVE QUESTIONING, DEFINITION of issues.
- **Impression**: What do I notice about my situation? What is happening to me and around me? TEMPORAL LINKS, |

**Citations:**
- Martin et al.
- Luk 2008

**REFLECTIVE NARRATIVE** (may be embedded in Subject Rubric Scaffold e.g Intro/conc; "Concrete Experience"/"Abstract concept")
procedure as well as job description. Similarly, it was difficult to engage in horizontal communication, which refers to the communication between employees on the same level or refers to cross-functional communication which is aiming to save time and support coordination (The University of New South Wales 2012). Previously, I thought that downward and horizontal communications are the best method in the hospitality industry but this case study made me realize that all three types of communication flow are essential and work effectively in the hotel. In future in order to become innovative in solving customer complaints and providing customer services I believe that the company could help and encourage staff to improve their upward communication.

- Initial thoughts and feelings about a significant experience.
- The challenge of new surprising or unfamiliar ideas, problems or learning experiences.
- How new knowledge can lead to change

**Bold:** Deeper reflection, personally applied.

**Plain:** Expressions indicating belief, learning, or knowledge.

**Dotted:** Expressions indicating self critique.

**Dashed:** Words associated with strong feelings.
A pragmatic approach

- Redesigning research
- Moving beyond the brain as computer and computer as brain
- New models of cognition, new models of computation
- Redefining evaluation
- Blue sky: Embodied cognition, quantum cognition and contextuality, alternative computational models
Questions? Comments?

- http://andrewresearch.net

- https://github.com/andrewresearch

- https://www.qut.edu.au/staff/gibsonap