What influences the reliability of the evidence that is given for an argument?

a) Sociological factors. Was the study that obtained the evidence really solid?
   - why should you believe this person / group?
     - does the source have a good reputation (reputation is important)
     - how careful are they?
       - do they make good use of available information?
       - do they have any biases? Any conflicts of interest? (nonconscious influences) Often affects reasoning process as well

b) Cognitive factors
   - humans don’t handle uncertainty well - generally discarded whenever possible
     - simply collapse to “yes” or “no”
     - poor at integrating uncertainty estimates
   - humans tend to put undue weight on concrete examples (vividness heuristic)
     - can happen in case studies
   - individual perspective / case studies is not generally sufficient
     - personal biases / selectivity (more about this later)
       - see what you’re prepared to see
       - insufficient information
       - variation in standards – often implicit (researchers too)
       - not enough sampling - overgeneralization

c) Statistical factors
   - issues of sample
     - specify scope - types of items sampled
     - specify size – standard error
     - specify how it was collected (randomly, stratified, etc) – selection bias
   - use of particular statistic
     - average: ambiguous word (cf. ambiguity)
     - range is also important
   - issues of context
     - need to compare with appropriate other conditions
     - make sure all relevant factors have been taken into account
     - what’s the appropriate level of group for analysis?
       - Simpson’s paradox
Real-World Segment: Debating III—Advanced (also see COGS303-Debates.pdf)

1. Use definitions that help the discussion
   - ball-pushing analogy: push the metaphorical ball to the other teams’s side
   - goal is to have the ball somewhat on one side or other. But it shouldn’t be extreme—it should still be possible for the other team to argue back.
   - changes in the position of the ball should arise from argument (reason), not (re)definitions.

2. Make explicit the connections between the positions
   - explicitly connect your reasons to those of the other side
     ▪ what reasons might counteract these?
     ▪ why might your reasons be better?
   - articulate what the other side is trying to say
     ▪ find (and explain) what is being assumed
     ▪ find (and explain) what is being traded off

3. Use concrete examples as often as possible
   - as in the case of writing, these can be highly effective:
     ▪ easier to understand
     ▪ easier to remember
     ▪ easier to relate to
     ▪ provide more emotional impact.