

16.812 Lecture 1

- Journals in this seminar are not the free-writing you may have practiced in high school nor are they particularly self-reflective although that may come into it.
- Instead we are practicing journal skills as a way to expand your abilities to think critically. As you've heard the faculty say, much of professional life is making decisions based on good critical thinking.
- Your syllabus packet has a list of prompts that you might use if you get "writer's block" when you are responding to an article or chapter. There are other questions to ask, of course, but these are some basic ones.
- Critical thinking prompts fall into basic categories:
 - What are the facts I know?
 - Can I explain this? Do I understand it?
 - Can I use it? Apply it?
 - Do I understand the key parts of this idea? This situation?
 - Can I take different ideas and put them together in something coherent or in a new way?
 - Can I evaluate something or someone or myself based on standards or criteria?
- We're going to do some active learning to start to use these ideas.
- For example,
 - Who knows the story Jack and the Beanstalk? In most versions of this fairy tale,
 - Jack and his mom are very poor.
 - Jack's mom tells him to sell the cow because they are out of money.
 - Instead, Jack trades the cow for some beans.
 - When his mom is frustrated and throws the beans out of the window, the beans grow into a stalk.
 - Jack climbs the stalk into the giant's home where the giant is sleeping.
 - Jack steals the giant's gold and also takes a hen.
 - The hen squawks and wakes the giant who chases Jack down the beanstalk. The giant falls and is killed.
 - Jack and his mom live happily because they have money now.

Please note that we've enumerated the facts we know and analyzed the fairy tale into its key parts.

But let's go further. If Jack disobeyed his mom, made a bad business decision, was guilty of breaking and entering, of greed, of theft of money and property, and

of contributing to death of a giant who really wasn't bothering him, then why is the giant always the bad guy?

In other words, what kind of story would it be if we thought about this differently?

We would use our skills of comprehension. We'd be synthesizing those key parts of the story differently, and we'd be evaluating them against different criteria—not the fairy tale criteria but more contemporary standards.

This is a lighthearted active learning exercise, but you can apply those same critical thinking skills to current events in the aerospace industry.