Module 2 – Readings

Mayer, R: Elements of a science of e-learning

* Mayer did a research based look at what works with e-learning and developed 9 research based principles for practice
* Basic look at whether learning in an electronic environment trumps other more traditional methods of learning
* Mayer found that there was no difference in a students learning if the instruction offered was similar whether delivered by computer or regular instruction
* The concensus amongst researchers is that e-learning has the potential to offer different learning opportunities then regular classroom instruction
* Questions tested by the researchers were (1)Do students learn a scientifix explanation more deeply from words and pictures than from words alone? (2) Which aspects of a multimedia explanation promote deep learning in which learners
* The nine principles are listed in a table but simply put
  + Modality effect: students who received animation and narration performed better on tests than did students who received animation and on-screen text
  + Contiguity effect: students who received corresponding segments of animation and narration at the same time performed better of test then students who has the entire narration either before or after the animation
  + Multimedia effect: students who received corresponding animation and narration presented at the same time performed better than students who received only narration
  + Personalization effect: students who received conversational narration performed better on tests then students who received formal narration
  + Coherence effect: students who received animation and narration performed better on test than did students who had animation and narration along with background music and sounds or along with interesting video clips
  + Redundancy effect: students who received animation and narration performed better on tests then did students who received animation, narration, and on-screen text
  + Pretraining effect: students who received component explanations before the presentation performed better on transfer tests then did students who received the component explanations after the presentation.
  + Signaling effect: students who received signalled narration performed better on transfer tests than did students who received non-signaled narration
  + Pacing effect: I don’t think they found anything conclusive regarding letting the learner control the pace of info transfer
* So why are these principles so????????? Has to do with how humans are hard-wired (1) Humans are dual-channel processors: which means that we have separate channels for processing visual and auditory information (2) Humans are limited capacity processors, that is people are able to actively process only a small amount of info in each channel at any one time (3) Humans are knowledge constructing processors, so meaningful learning occurs when people attend to relevant incoming info, mentally organize it, and mentally integrate it with other knowledge
* Mayer states at the end of the paper that the “history of educational technology is replete with examples of grand claims for how some new technogloy will revolutionalize education, but when they were implemented into schools the results were disappointing
* Think about framing some of this for Aboriginal Youth – modes of how they learn: story telling/ role modelling/ minor assessment/ rites of passage

Kozma, Robert: Will Media influence learning? Refraiming the debate

* In 1983 a study by Richard Clark showed that basically there are no learning benefits for using a specific medium (say computers) to deliver educational content. It is really that the media is a vehicle for delivery of instruction and does not influence student achievement.
* The author, Kozma, is setting about to take another look at this claim
* Kozma is concerned that if we do not make a linkage soon that in the future when there is a merging on media (tv, phone,digital fusion) it will be underutilized and it’s potential for educational use will be forgotten
* Why have we failed thus far to make a connection between learning and media? Because we have oversimplified and made the “medium an inert conveyer of an active stimulus to which the learner makes a behavioural response” instead of remember that learning is not that simple it is “an active, constructive, physical, and social process by which the learner strategically manages available resources to creat new knowledge by interacting with info