Overview

• To the point please...
• Schrödinger and Hyperspace
• Stories in computer science
• The Holodeck
• Stories (bad and good)
• The Cartesian view of computers and Gibson's world
• Metaphors
• Putting it all together: Immersive worlds, gestures and learning
What can I do for you?

Sinclair ZX81
TRS-80

Schools: Good or Bad?
And now...

Where are we now?
Where are we heading?

Critical Thinking
CT Definition

Critical thinking is a "purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based. As such, critical thinking is a liberating force in education and a powerful resource in one's personal and civic life."

CT Spectrum

CT, PROBLEM SOLVING, CREATIVE THINKING AND DOMAIN SPECIFIC KNOWLEDGE

Proposed continuum

A specific situation would be a point in this continuum, where critical thinking would coexist with creative thinking and problem solving.

The degree of "coexistence" would largely depend on the context and the specific task at hand. Domain specific knowledge would also play a role in the interaction between these constructs.

Also, this "slice" would show observable evidence of the use of each construct. This would help determine measures and target interventions, which would depend on context and goal.

Simple logical tasks, well-defined
- Algorithmic (Facione)
- Micro-skills (Paul)
- Problem solving (Kurfiss)
- Right-good vs. wrong-bad (Perry)

Larger issues, meaning of life, ill-defined
- Heuristic (Facione)
- Emancipatory (Paul, Mezirow, Courtenay)
- Critical thinking (Kurfiss)
- Decision and commitment in uncertainty/incomplete info (Perry)
Embodied Expertise - Suwa

Nanobots
Nervous System Manipulation

Storyweavers

Here is where the new nanobots would kick in. Coded within the example offered by the experienced dancer were the levels of emotion translated into brain chemicals, and the exact muscle and joint motions that were necessary to achieve that specific level of proficiency. Nanobots would induce the same emotional states by modifying the levels of brain chemicals and would send signals to muscles and joints to replicate the exact same motion.
Storyweavers

But this time it was different, she moved gracefully and for the first time she really felt that song and understood what it meant to move her body to that tune.

Storyweavers

Her thoughts switched to the days and hours that had led to that moment. The holographic image in front of her eyes receded in space and was replaced by images of her body and her most inner thoughts and desires paraded all over the global stream for everyone to see. Her profile holograms were all vandalized with obscene drawings and hurtful insults. Some went as far as encouraging her to ‘just die’.
Storyweavers

• “She gave me access to all the information I posted. Now she is making a big deal out of it.”
• “She trusted you and you took advantage of her.”
• “She was the one complaining about not being able to play her stupid violin everywhere.”
Storyweavers
Creative Science Workshop

CARLOS SANCHEZ-LOZANO
jcsanchezlozano@gmail.com