

Information Literacy and Lifelong Learning

(...and Creating!):

How Early *Can* We Start?

Presented by K-12 Information Literacy Teacher/Educator/Consultant Jeffrey V. Kelly,
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Information Literacy is:

“The ability to extract and create good value from a variety of information sources.”

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Child Brain Development Course, Temple Fay Institute for Academics, Philadelphia, PA
Master of Arts in Teaching, Trinity University, Washington, DC, USA

- I have been a professional educator since 1990. I've taught in public schools and private schools, all girls, all boys and coed; I've taught students in every grade between Kindergarten and 12th grade, math, religion, social studies/history and I am currently teaching middle school English/Language Arts, Information Literacy and Critical Thinking. As a Special Educator I've taught advanced students with 160+ IQs; I've taught students with minimal brain function who were non-verbal and I've taught all cognitive levels in-between from ages 5 to 21.

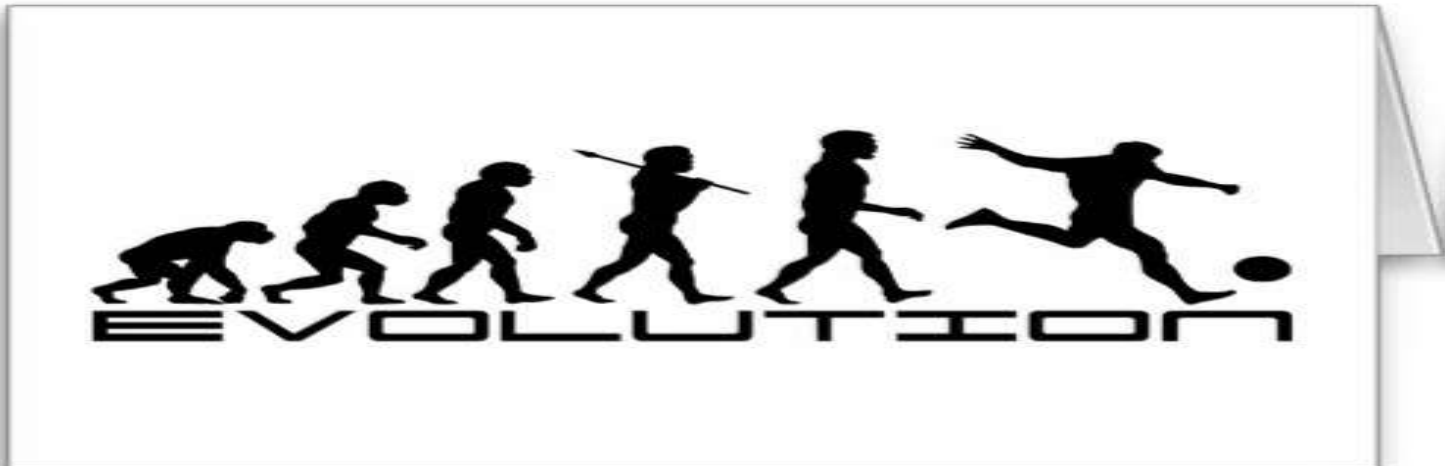
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Information Literacy, Media Literacy and Lifelong Learning (...& lifelong creating too!)

- **Data** = bits/qubits. The “bricks” for building content
- **Information** = putting bits/qubits in-*formation* to = content
- **Media** = the way the data/content is delivered. The method of delivery. The medium...
- **Lifelong Learning...& creating** = how we take information in through the senses and how this inputted information interacts with the information we already have inside and then how we create and deliver output
- **Literacy** = proficiency. Educated, learned. Literally “One who knows the letters”
- {To be *informed*, links information and literacy.}
- The Informed Virtuosi are the experts in IL

Input → Processing → Output

- When a person is conceived, lifelong learning is automatically activated and continues throughout life. Therefore, things work better if the educator teaches critical thinking and Information Literacy to enhance this already activated, built-in learning process. The lifelong learning and creating “drama” begins at conception between input, processing and output...



In 1999 this man inspired me to research Information Literacy/*critical thinking* for my professional development as a teacher.



Paul G. Zurkowski is teaching my 6th grade class about Information Literacy via *Critical Thinking*



I have been teaching Information Literacy through *critical thinking* to my students since 1999 after having been inspired by an email exchange about the fundamental nature of *information* with Quantum Information Physicist, Professor Anton Zeilinger of the Vienna Center for Quantum Science and Technology

- “It is operationally impossible to separate Reality and Information.” Prof. Anton Zeilinger
- In other words: Reality and information are the same. Reality is composed of information
- “Reality and information; The two are not separate.” Prof. Anton Zeilinger

Critical Thinking, the key that unlocks Information Literacy...and IL in turn boosts **Lifelong Learning...& Creating!**

- *Critical thinking* can be applied to any information that is accessed regardless of the source starting at around age 7, the age of reason, and continuing through adulthood
- What is *critical thinking*? *Critical thinking* is:
“Asking questions and judging answers of a subject for good/informed decision making.”
- In other words: Judging how helpful or not helpful information is because our actions are based on our judgment
- The *trained* mind is prepared to see the truth

a a c c r r = v @ g & t

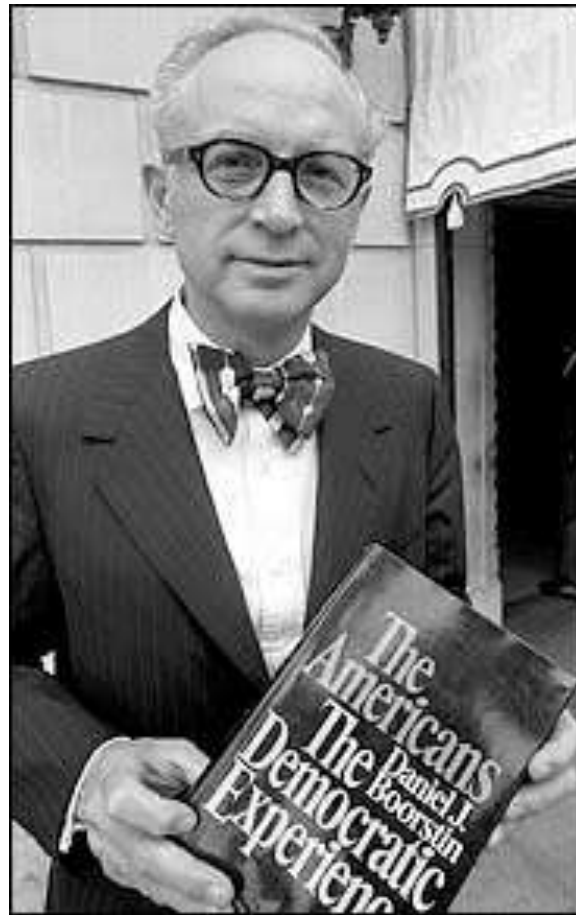
- **a**ccuracy/authentic
- **a**ccess
- **c**ontext, continuum
- **c**lear, complete, cite
- **r**elevant, reliable
- **r**efined
- =
- **v**alue, vote
- @
- **g**ood/goal
- **t**ime/timely, truth

Do you know what this is?

Do you know what city this is in?



Do you know who this is?



Other Critical Thinking/IL Tools For Extracting Value From Data

- ***70-10-10-10 principle***- Most organized data about social systems follow this principle

- ***The Continuum:***

0 | 100%

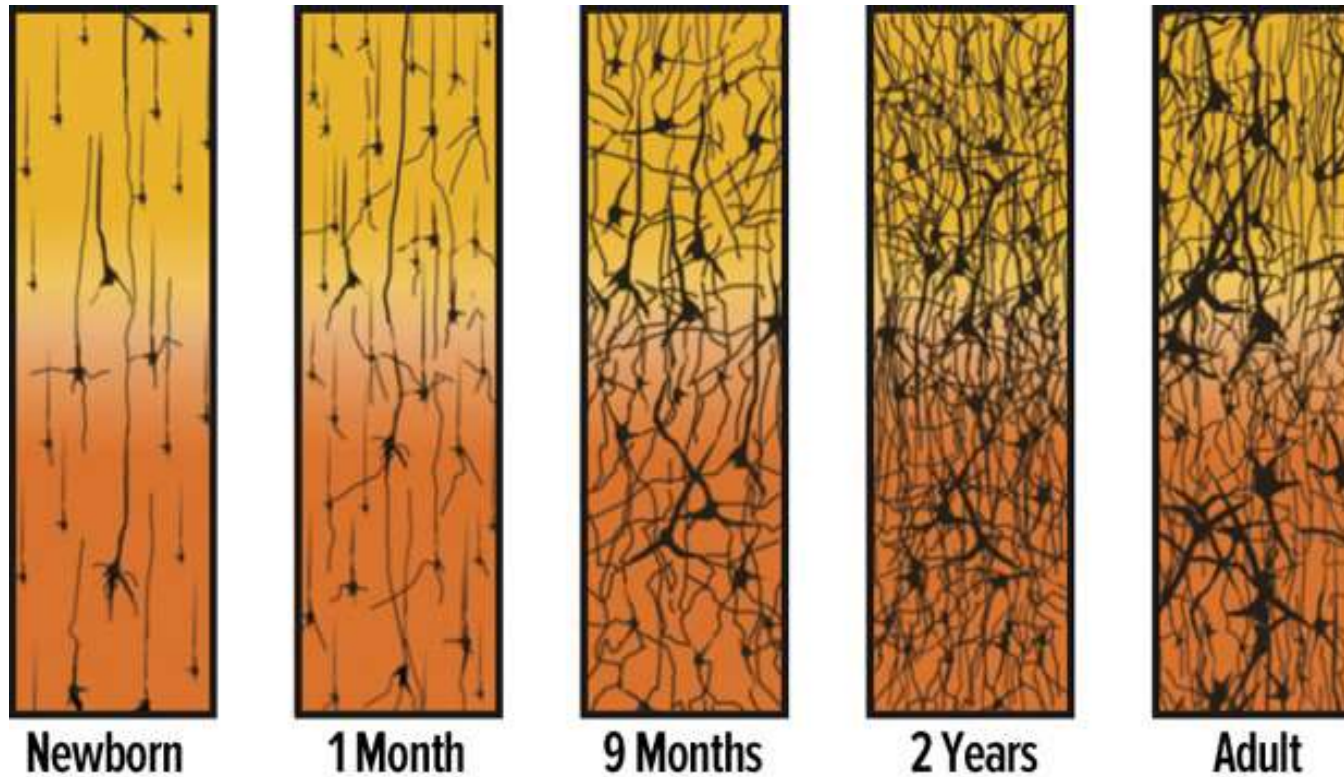
- Individuality *AND* Unity
- Awake *OR* Asleep
- Change *IS* UnChanging

How Early *Can We Start* Developing Information Literate World Citizens?

- **Conception to ~7 years-** Start by focusing on helping our children prepare to become information literate thru proper nutrition, healthy brain stimulus, appropriate experiences...in a word; love. Take note that 2 years old is a critical milestone for brain synapse development.
- **Age ~7 thru Adulthood-** Age 7 is approximately when external critical thinking methods can be introduced to our children/students to connect to their internal natural thought development. This translates to around 2nd grade in the United States
- So the answer to the question, *How Early Can We Start?* is: At conception we can begin to build the foundation for Information Literate *Lifelong Learners AND Creators*, thru appropriate “input” and experience for the child and then connect external *critical thinking* methods around age 7/grade 2 with internal thought processes to develop in concert through adulthood

FIGURE 3: Synapse Density Over Time

Source: Corel, JL. The postnatal development of the human cerebral cortex.
Cambridge, MA: Harvard University Press; 1975.



Recap

1. All reality is made up of bits/quibits of information
2. Information Literacy is: ***“The ability to extract and create good value from a variety of information sources”***
3. To be Information Literate is to be *proficient* in it’s use. To be Media Literate is to be proficient in the various ways information is delivered. To be literate in both is to be a member of the Informed Virtuosi
4. To help develop lifelong learners...& creators we *can* start as early as conception with appropriate input (nutrition, love) and introduce critical thinking around age seven to create lifelong information literate world citizens
5. Critical Thinking is the key that unlocks information literacy which in turn fuels *lifelong learning...& CREATING!*

Jeffrey V. Kelly, M.A.T. K-12 Information Literacy Teacher/Educator/Consultant

- I am currently developing a curriculum for educating teachers about Information Literacy (the new “Informed Virtuosi”) through my Washington, DC school system and how to teach a specific unit on Information Literacy in their K-12 classrooms
- I can consult on how to develop Information Literacy at your institution, through video conferencing, email, phone conversations and in person

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Paraphrased from Wikipedia article on the *Information Age*

- [Nicholas Negroponte](#) captured the essence of the changes in our perception of reality in his 1995 book, *Being Digital*. His book discusses similarities and differences between products made of *atoms* and products made of *bits*. A striking difference is that one can very cheaply and quickly make a copy of a product made of *bits*, and very cheaply and very quickly ship it across the country or around the world. Not so with things made of atoms...or not yet.!?