

# Things you Really Need to Learn

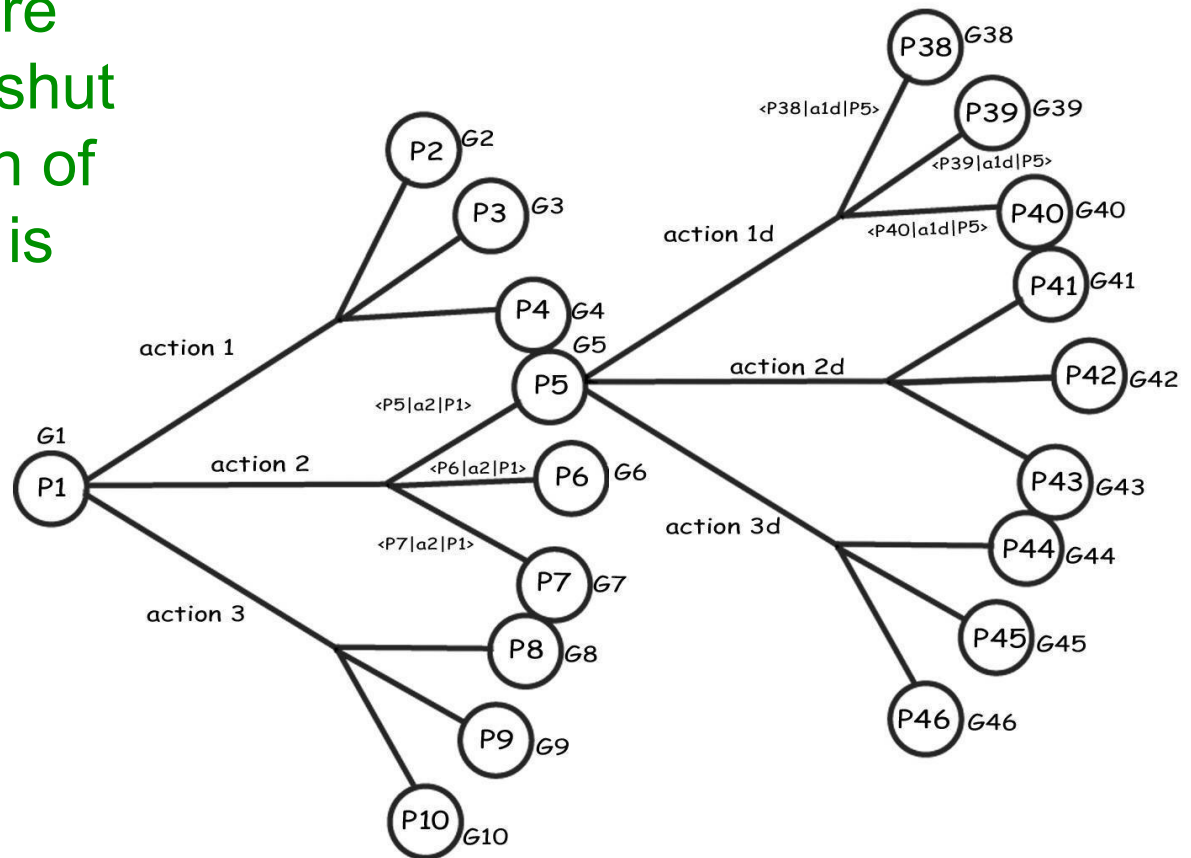
Stephen Downes

May 30, 2007

# How to predict consequences

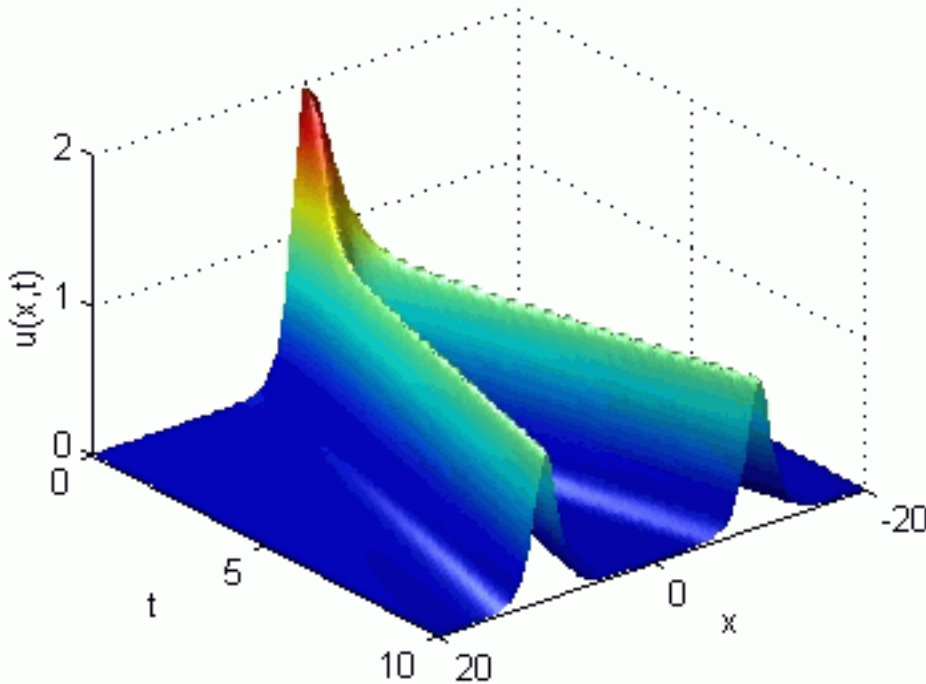
Even though we are epistemologically shut off from the “ocean of consequences,” it is critical to be conscientious of the immense power an action can have.

- Jack Cohen



what it is

A combination of science,  
mathematics, and visualization

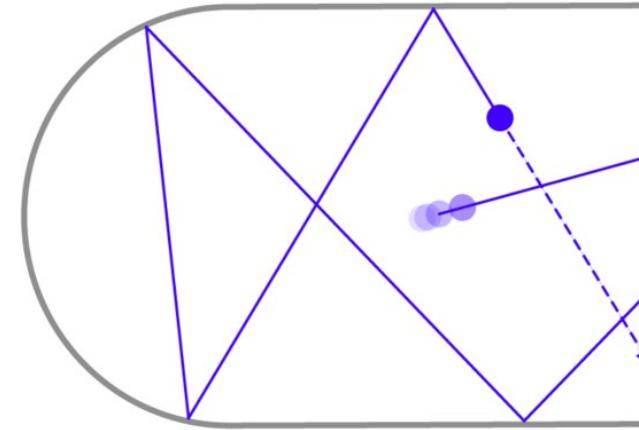


... the ability to  
create a mental  
model imaging the  
sequence of events  
that would follow,  
"what would likely  
happen if...?"

how we learn it today

Games of:

- **numbers and counting** (eg., darts)
- **action** (eg., billiards, baseball)
- **chance** (eg., poker)
- **strategy** (eg., chess, go)



... and a little bit of science and mathematics education, to fill out the theory

what to watch for



<http://www.lisavictoria.net/Images/ACEO/Full/WishfulThinking.jpg>

## Wishful Thinking

focusing on what you want to happen rather than what might happen instead.

Common sense: everyday generalizations

but: *over-simplification*

new tech

.. will allow us to explore complex phenomena and their consequences



- increased **physicality** (eg. Wii)
- increased **complexity** (eg. Sim City)
- increased **interactivity** (eg. WoW)



# How to read

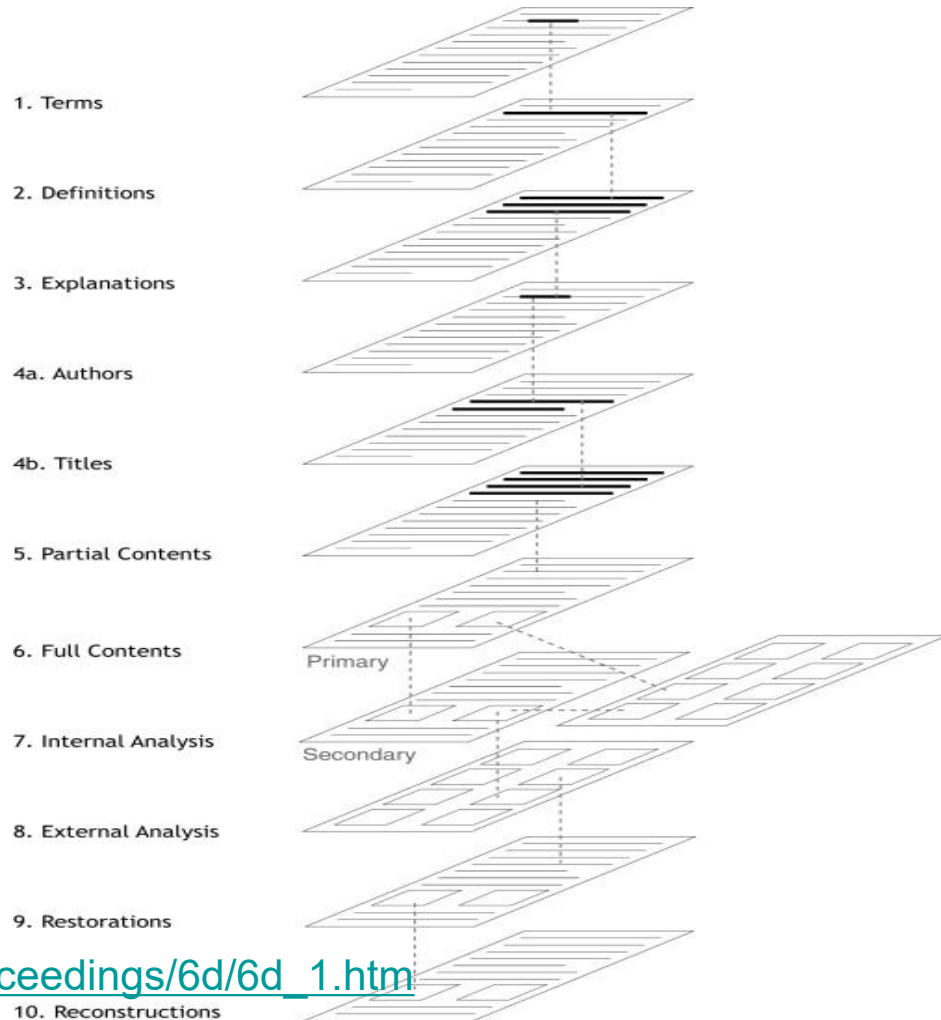
How to look at some text and to understand, in a deep way, what is being asserted...



what it is

## Understanding the four major types of writing:

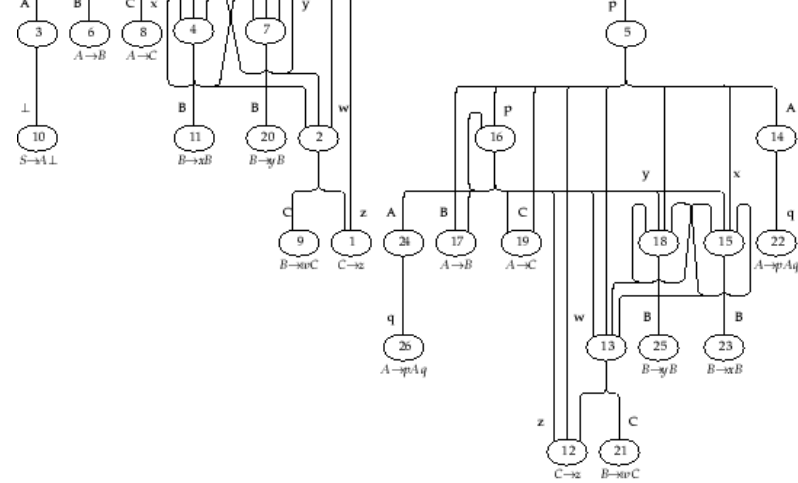
- Description
- Argument
- Explanation
- Definition



[http://www.isoc.org/inet2000/cdproceedings/6d/6d\\_1.htm](http://www.isoc.org/inet2000/cdproceedings/6d/6d_1.htm)



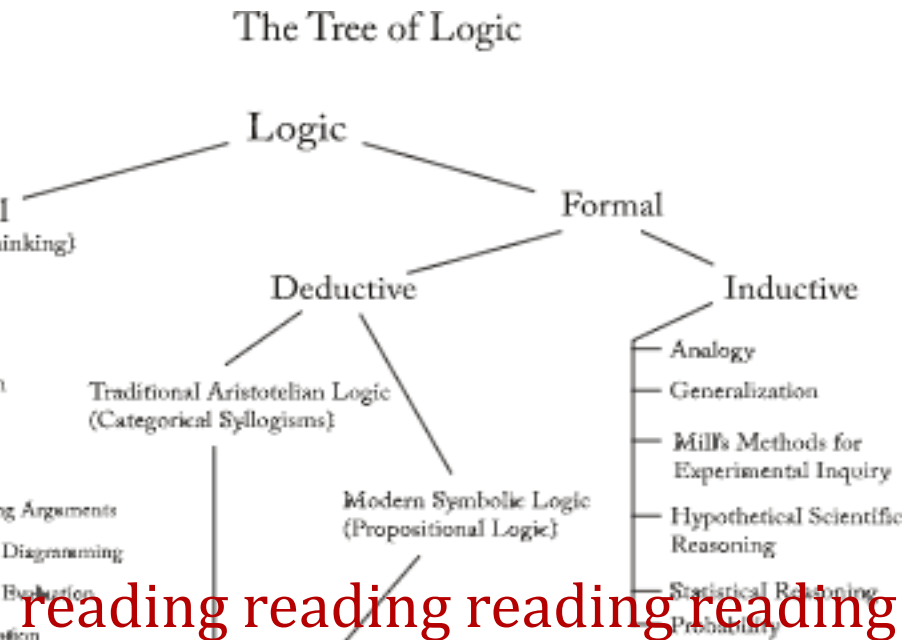
how we learn it today



grammar and language classes

and if we're lucky

logic and rhetoric



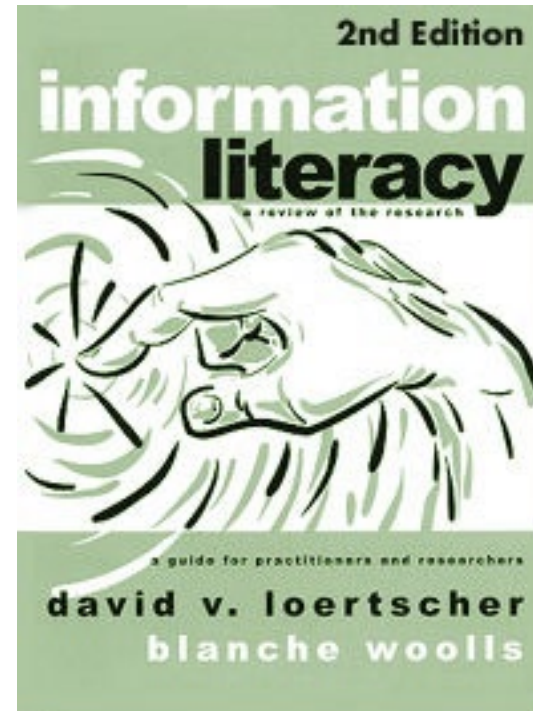
reading reading reading writing reading reading writing reading reading writing

what to watch for

- reading without comprehension
- reading without meaning or purpose

## Other Literacies

- graphics and maps
- videography
- signs and symbols
- music
- body language



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Rather than memorizing form (the old way)  
multimedia teaches to look for *signs* in  
the environment (the new way)



these are indicators

We don't just consume, we  
also create

reading reading reading reading writing reading reading writing reading  
reading writing

# How to distinguish truth from fiction



The first thing to learn is to actually question what you are told, what you read, and what you see on television.

## what it is



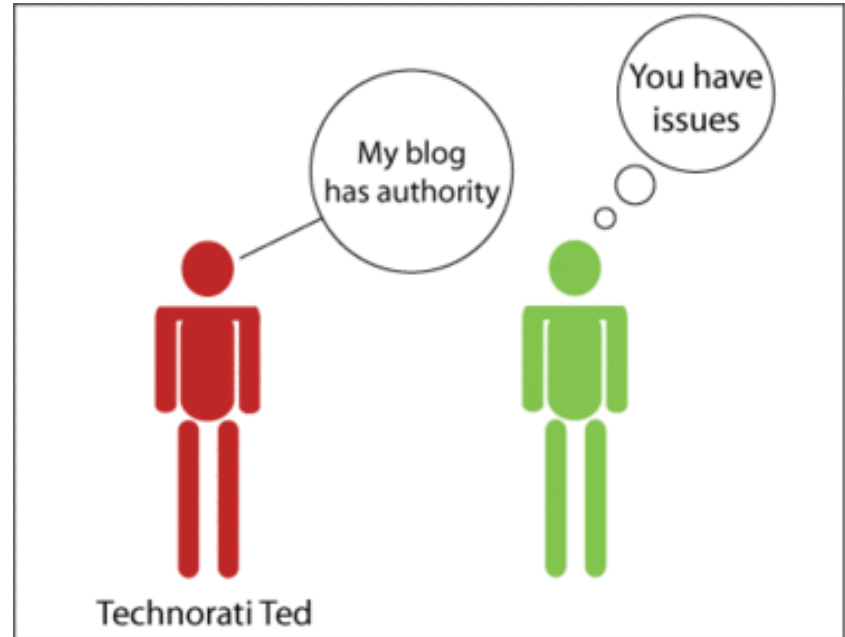
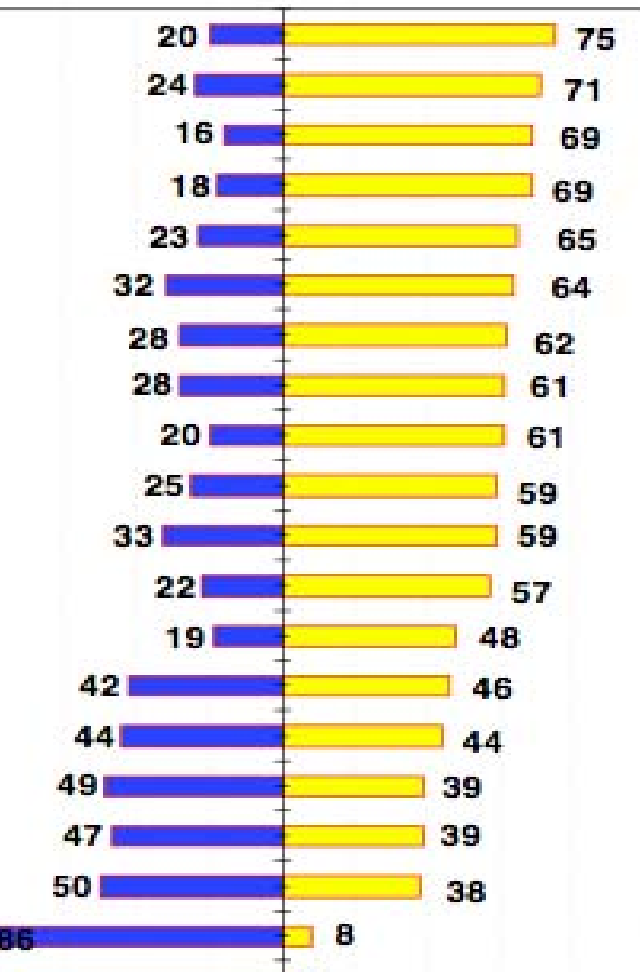
- judging for yourself
- observing
- questioning
- verifying
- putting into context

<http://www.gutenberg.org/files/18891/18891-h/images/ill-13-t.jpg>

<http://www.downes.ca/post/4>

how we learn it today

Mostly, we don't



[http://darmano.typepad.com/logic\\_emotion/images/issues.gif](http://darmano.typepad.com/logic_emotion/images/issues.gif)

We are taught to depend on...

- authority (including media)
- counting (including popularity)

## what to watch for



- framing  
(motives matter)
- backgrounding  
(our hidden assumptions)
- misperception  
(we see what  
we're looking for)

new tech

# fisking

<http://en.wikipedia.org/wiki/Fisking>

- autonomy
- diversity
- connectedness
- openness

## The Semantic Condition

Mémoire du sacrifice par Serguei



[http://www.theaugeanstables.com/wp-content/images/17\\_02.jpg](http://www.theaugeanstables.com/wp-content/images/17_02.jpg)

# fact-check your a



# How to empathize

The ability to imagine oneself as another person...



The ability to *be* another person...



what it is



a mental model of the other person's thoughts and feelings in your own mind

a genuine feeling in yourself that operates in synch with the other person

how we learn it today  
... is mostly as theory

## Psychology



## Religion



## Drama

Many schools have stopped teaching these...

what to watch for

- assuming everyone else is like you



- assuming empathy is a bargain

like, say, the golden rule

<http://home.comcast.net/~wardomatic3/graffdad-color.jpg>

# ***IDENTITY SHIFTING***

*World Wide Web*

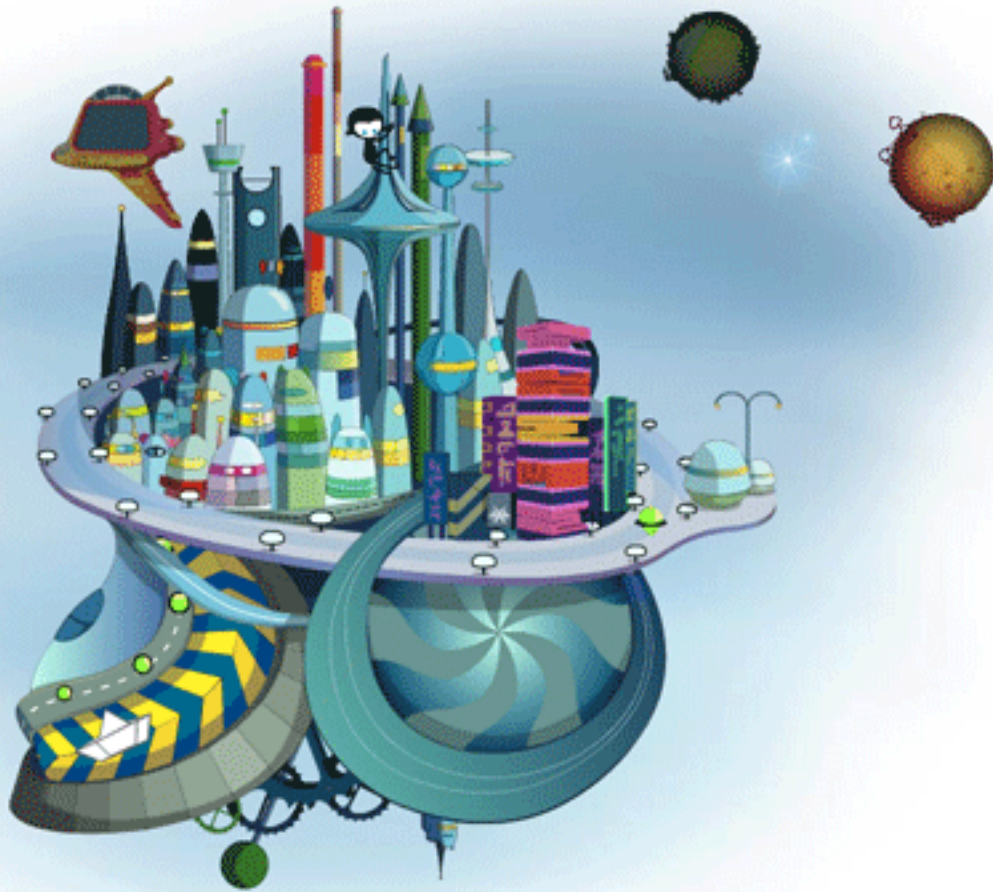
*Read My Blog*

*MMRPGs*

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Opens  
new  
worlds  
and puts  
us into  
the shoes  
of other  
people

# ***MIRROR NEURONS***



How to be creative

## what it is

- A transfer of knowledge from one domain to another
- A manipulation of that knowledge

Operates by *metaphor*

thinking outside the box

Requires *pattern recognition*

that's why it's hard

It is *not* the filling of a blank slate

how we learn it today

by *creating thing* (usually from scratch)



Art

Music

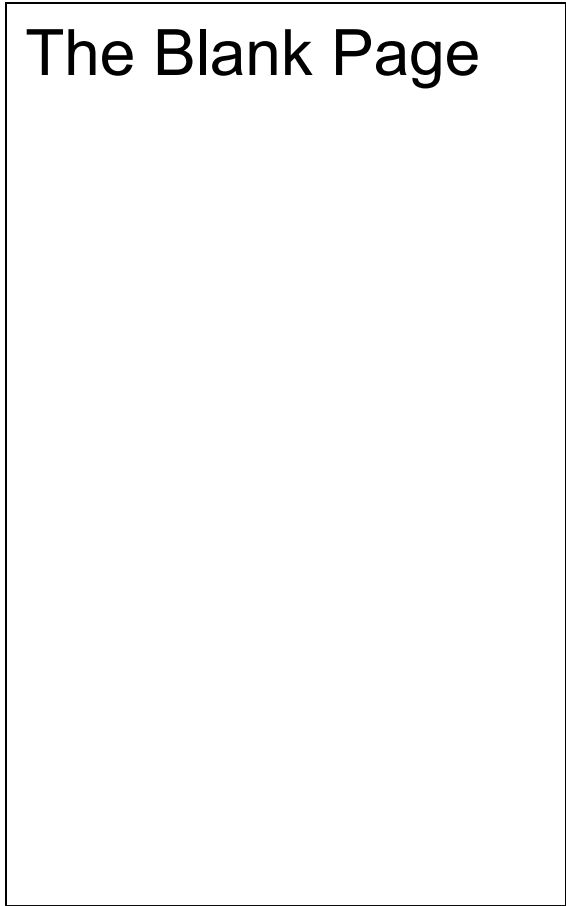
Design

Writing

Play?



what to watch for



Creativity is a *response* to something... how to rescue a cat, how to cross a gap, how to hang laundry...

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Has  
unprecedented  
tools for  
creating...  
capturing...  
combining...

Unprecedented challenges too:  
Have you tried to play Myst?

Mash-Ups



[http://www.piledriver.com/images/MLS\\_mashups.jpg](http://www.piledriver.com/images/MLS_mashups.jpg)

devote some time every day to an art -  
music, photography, video, drawing,  
painting or poetry.

# How to communicate clearly



what it is

probably the hardest

- knowing what you want to say
- knowing how to say it

**simple tools...**



how we learn it today



writing

public speaking

debating

note: mostly takes place  
in closed environment

what to watch for

PYRAMID STYLE



WIN FRIENDS

It's not something you can simply teach...

It's something you need to *practice* in a real environment

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Gives  
people a  
*real*  
audience  
and allows  
them to  
pose real  
questions



<http://www.nyu.edu/its/ftc/ls/images/blog.gif>

## Educational Blogging

and lets them create

collaboratively

<http://www.downes.ca/post/38526>

giffy wiki co-comment subthaedit youtube wordpress drupal flickr faceb

# How to Learn



When you learn, you are trying to create patterns of connectivity in your brain. You are trying to connect neurons together, and to strengthen that connection.



what it is

Learning is like recognition...

To *teach* is to model and demonstrate

**pattern recognition**

To *learn* is to practice and reflect

Models, archetypes, flows...

how we learn it today



<http://www.lib.lsu.edu/instruction/tour/images/classroom.jpg>

We listen to someone  
tell us about it in a class

(or maybe read a self-help book)

what to watch for

We are always learning

The question is...

What?



<http://www.beadcreative.com/for-web-kal-three-of-them.jpg>

Learning how to learn is learning how to *create patterns* in our mind rather than merely *acquiring* them

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lets us take control....

(yes, it's that simple)



It's our media

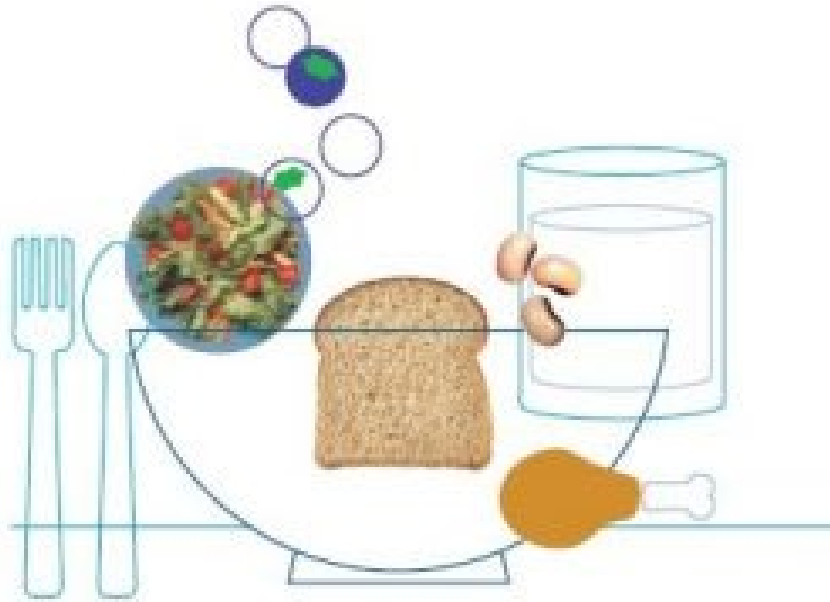
It's our content

It's our patterns

It's our learning

Be the Node

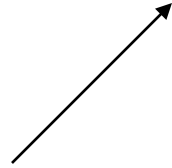
# How to stay healthy



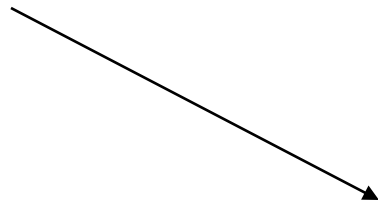
If your school is not facilitating proper exercise and nutrition, demand them!

what it is

.. to toxins, diseases,  
threats, etc



Minimize exposure  
Maximize resistance



.. with good foods,  
exercises, practices

how we learn it today

school

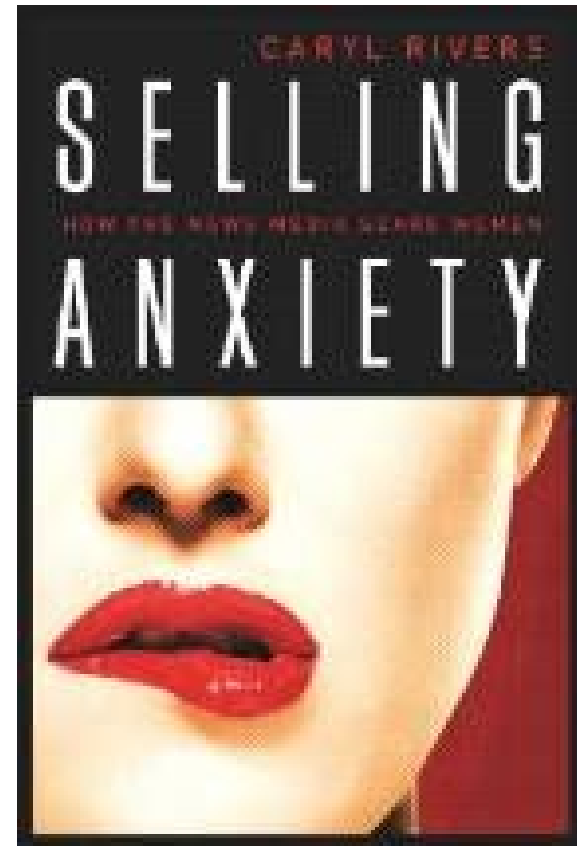
parents

friends

media



OMG WE'RE ALL GONNA DIE!



what to watch for

In a word: misinformation

Hit-button issues

Scare tactics

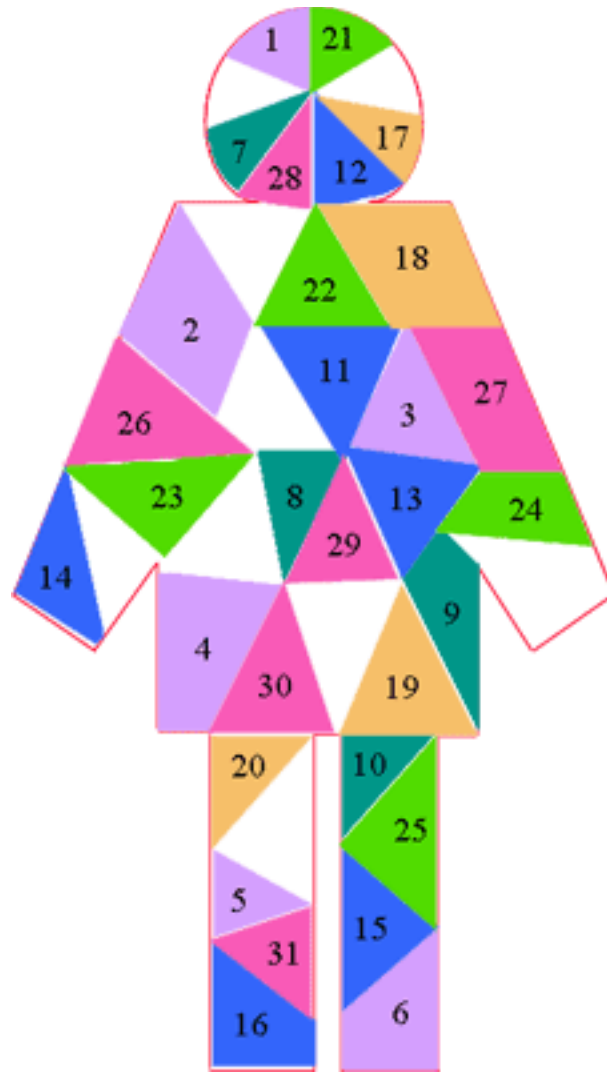
Advertising







# How to value yourself



In order to value  
yourself, you have  
to say "I am  
valuable."

## what it is

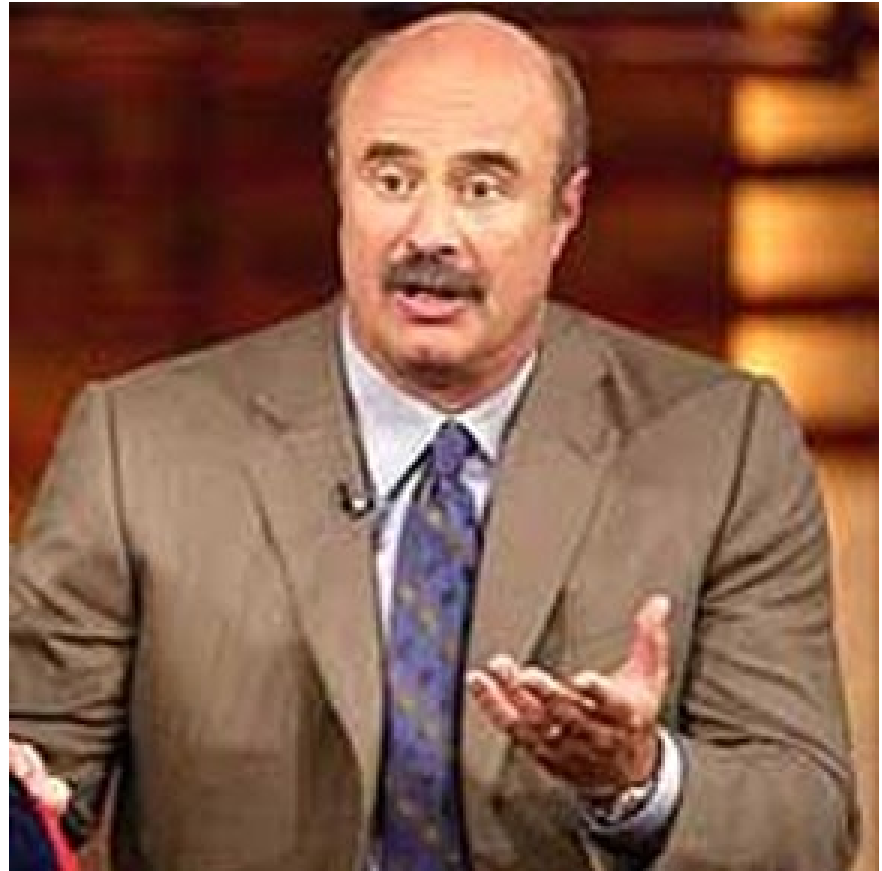
**the belief that you are good enough** (to have an opinion, have a voice, and have a say, that your contributions do matter)

**the belief that you are capable** (that you can learn to do new things and to be creative)

**your ability to be independent** (to not rely on some particular person or institution for personal well-being)

**and autonomous** (capable of making your own decisions and living your life in your own way)

how we learn it today



We watch Dr. Phil

who tells us it's ok...

after this commercial break

what to watch for

# People who say you're worthless

(unless you vote for them, do what they say, buy their product)

If somebody tells you that you are worthless over and over, and if you do nothing to counteract that, then you will come to believe you are worthless, because that's how your neural connections will form.

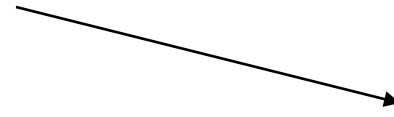


THIS IS PRACTICE



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Tell yourself that you are smart, you are cool, you are strong...  
Say it out loud, in the morning, each day  
Then, practice these attributes.  
Be smart...



ONLINE...

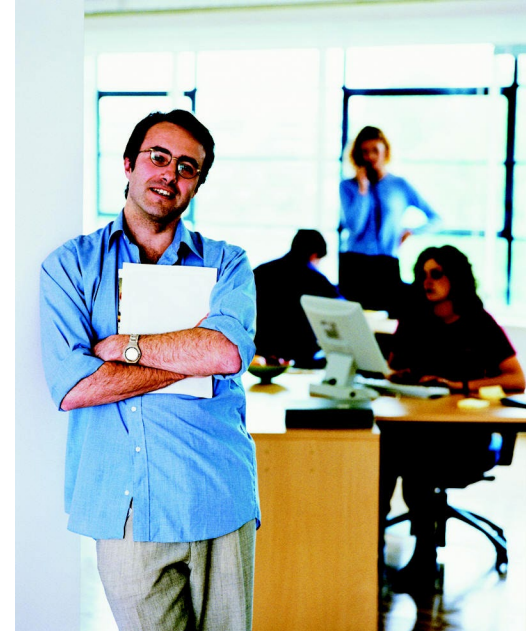
Google / Yahoo Groups

My network is my support group

Skype / IM / Email

I am the network

Blog / Wiki / YouTube





# How to live meaningfully

What you are doing  
right now is the thing  
that you most want to  
do

what it is

Dedication to a goal or cause

Appreciation of the here and now

- educate people
- cure diseases
- explore space
- worship God
- raise a family
- design cars
- make art
- attain enlightenment





how we learn it today

## Good question...

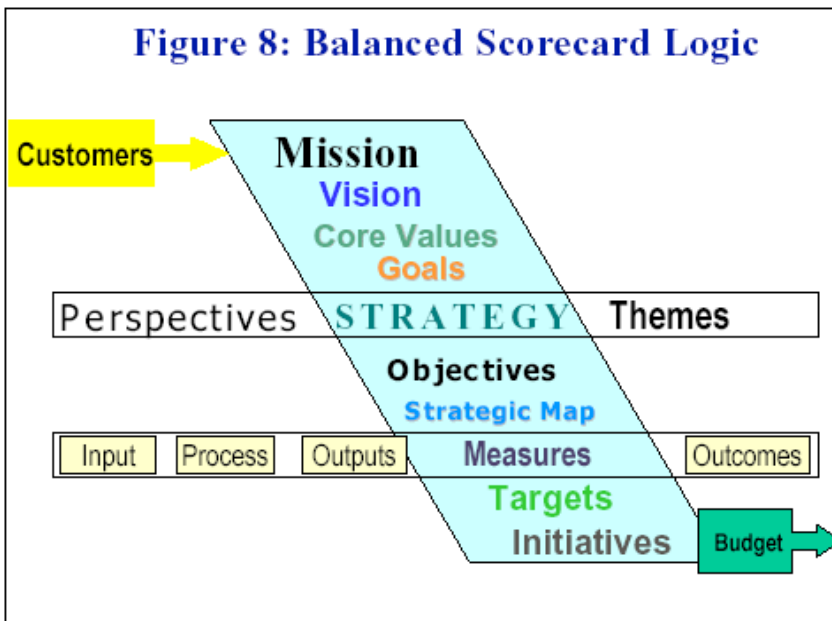
There's no shortage of people who will tell us how

But do we ever learn to decide for ourselves?



what to watch for

The difference between means and ends



money, fame and power are things people seek in order to do what is worth doing.

What is worth doing?

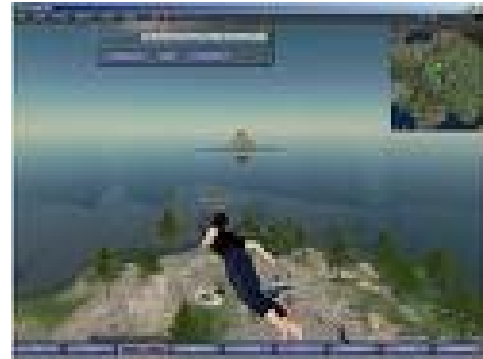
new tech

New technologies give us choice

The world is (quite literally) what we make it

(just ask the people who made Second Life)

When you realize you have the power to choose what you are doing, you realize you have the power to choose the consequences.



Everything you do has meaning

Stephen Downes

<http://www.downes.ca>