

Information Overload - Seeking Knowledge Retention

A central blue brain is depicted with a glowing, textured surface. Numerous bright blue lines radiate from the brain, some ending in small, glowing spheres. The background is dark, making the blue elements stand out. The overall aesthetic is futuristic and technological, representing the flow of information and the process of knowledge retention.

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Information and Knowledge

- Epistemology and Philosophy

- The study of knowledge and Plato's, "Justified, True, Belief."

- The Creation of Facts

- Information Retention

- Less about defining what knowledge is, and more about how we collect and remember factual information.

Traditional Ways of learning

- Oral communication
- Written language
- Mass production of literary material and the rise of world-wide literacy

New Ways of Learning

- Recorded Audio and Video
- Digital Information
- The Rise of the Internet

Information Overload

- The potentially 'mind-numbing' effects of being submerged in a constant flow of information
- Has the nature of information retention, namely use of the Internet in the school setting, gone beyond what people work best with?
- Can people learn as much and learn as deeply as they have with traditional media?

Articles about the research on the difference between traditional and new learning methods

Gathered opinions on traditional vs. hypermedia teaching methods

- Resulted in most saying hypermedia was taught more efficient and effectively
- Yildirim, Z. "Hypermedia as a Cognitive Tool: Student Teachers' Experiences in Learning by Doing." *Educational Technology & Society*, 8.2 (2005): 107-117.

Comparison of hypermedia vs. traditional methods

- An analysis of hypermedia use versus traditional methods show that web based teaching offers faster problem solving mechanisms, integrated document navigation easier, a higher level of satisfaction, and gathered more learning experience.
- Liu, CH, TC Chiang, and YM Huang. "Assessment of Effectiveness of Web-based Training on Demand." *Interactive Learning Environments*, 15.3 (2007): 217-235.

Our Question:

Is our constant use of the Internet perpetuating a shallow information intake rather than a more in-depth knowledge?



How We Aimed to Answer It

We looked to answer this question through . . .
SCIENCE!



Bill Nye

The science guy

Hipster GLaDOS



Science is too mainstream.

Examples of Article + Video

Whales are People Too

-Published in *The Economist* 2/15/12

Hummingbirds

-Published By *National Geographic* and can be found on their website

The tests given

We gave two tests for each article:

The first test was longer and tested the initial level of knowledge gained from the source of media.

The second test was shorter and it tested the level of knowledge retained after a few days.

Interpreting Results

Those who read the article initially performed better on the first test than those who watched the video, but the difference is not very big.

However, those who watched the video scored higher on the second test than the first test (better knowledge retention).

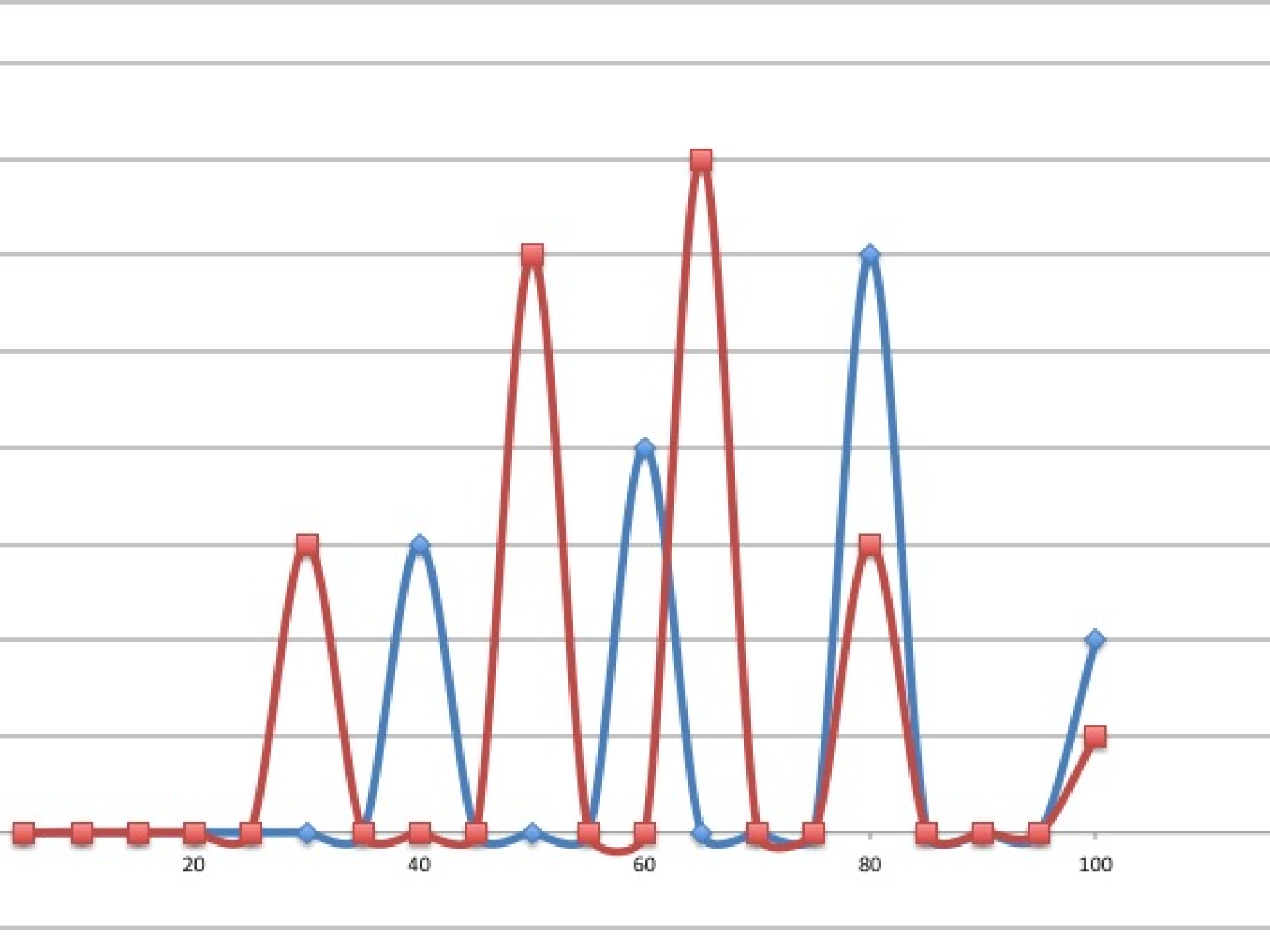
The Statistics in a Nutshell

New Media:

- Test 1 Mean: 62%
- Test 2 Mean: 78%

Traditional Media:

- Test 1 Mean: 69%
- Test 2 Mean: 71%



Problems

- There's no way to recreate the actual pressures of educational learning
- Survey results could easily be different every time because there is no way to control every learning variable

Lurking Variables in Learning

- Motivation
- Testing environment
- Focus
- Variation in learning style

Suggesting?

- Visual media opens learning possibilities for more learners that might be more enabled to learn in this way
- Learning and comprehension are dependent mainly on the will of the learner
- The abilities of a learner can be matched with different types of media to fit their own sensory strengths

Basic Differences in the Media

- Reading allows for no extra factual information to be included, unless it is chosen by the author and usually represents deeper meaning or motive of the author
- Product placement

Is this important?

- It makes sense that cultural importance around factual information would increase as more video media is being used
- It does not make anyone 'stupider,' but humans adapt to the main form of communication technology as a source of info
- Internet offers a complete mix of media
- Where will dependence on the new media lead?

Thank You!

