

EDSE 327 November 28, 2013

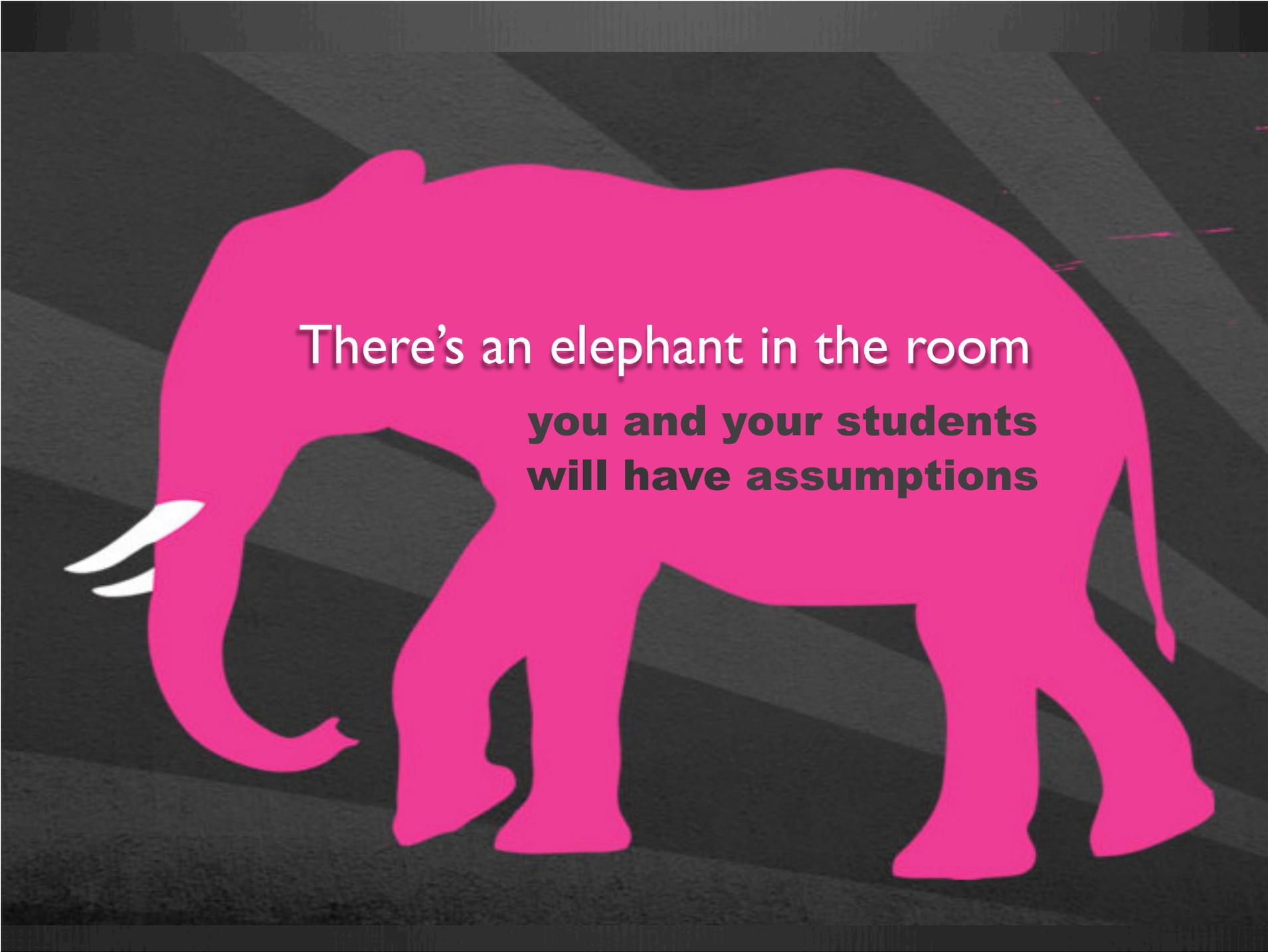
Acquiring Skills
Developing Understanding
Emotion
Exploring Perspectives

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UNIVERSITY OF ALBERTA
FACULTY OF EDUCATION





There's an elephant in the room
**you and your students
will have assumptions**

My Case Study

84% Teachers assume students understand everything they are assigned to read

instructions

What Do You Assume About Students' Reading?

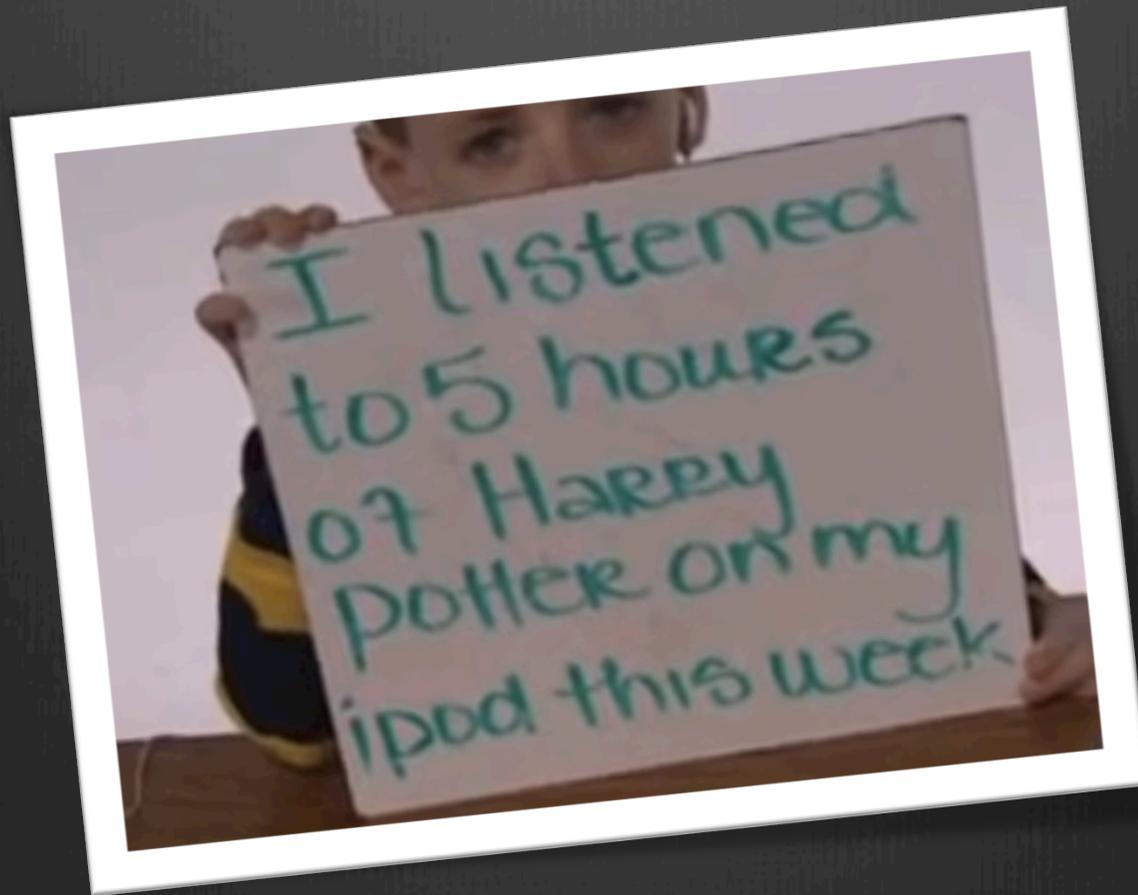


Photo: http://www.youtube.com/watch?v=_A-ZVCjfWf8

How Do Students Read in the 21st Century?

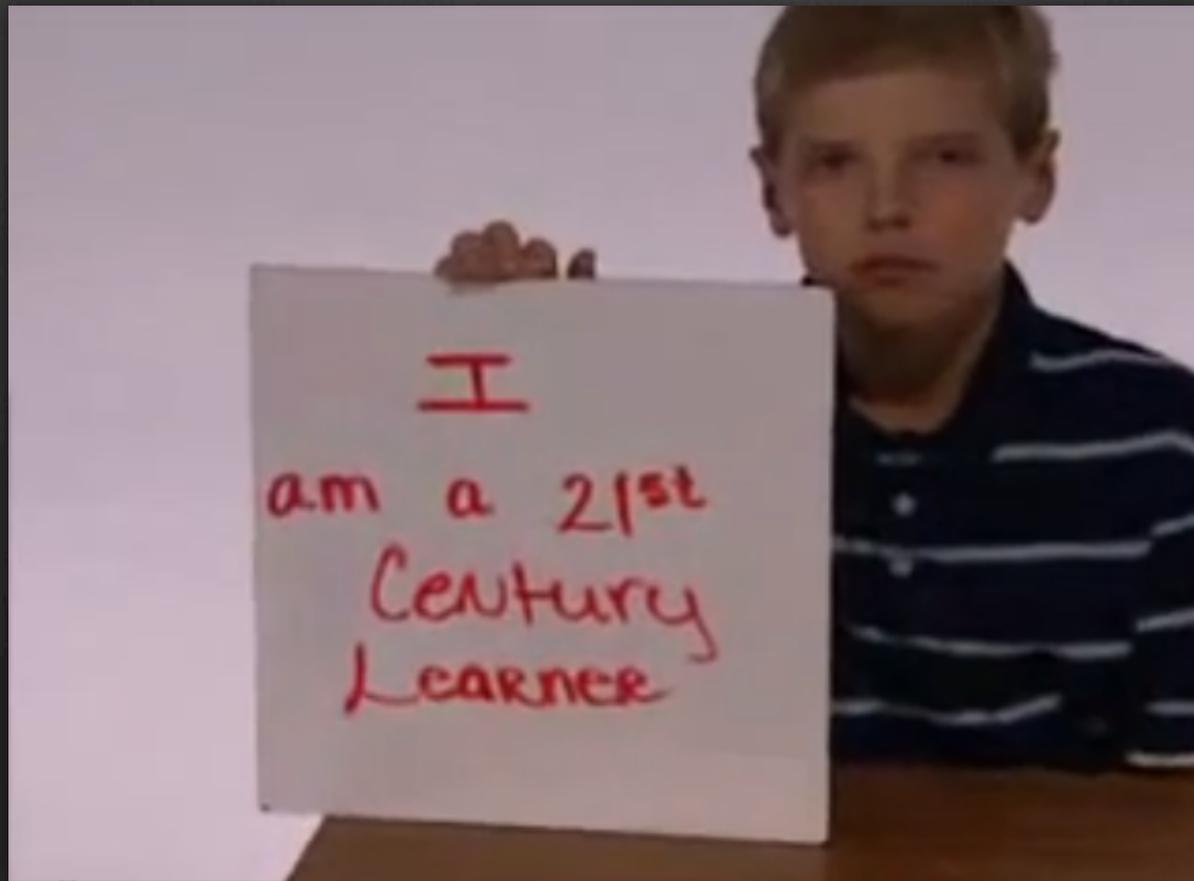


Photo: http://www.youtube.com/watch?v=_A-ZVCjfWf8

Students Want to Use the Web

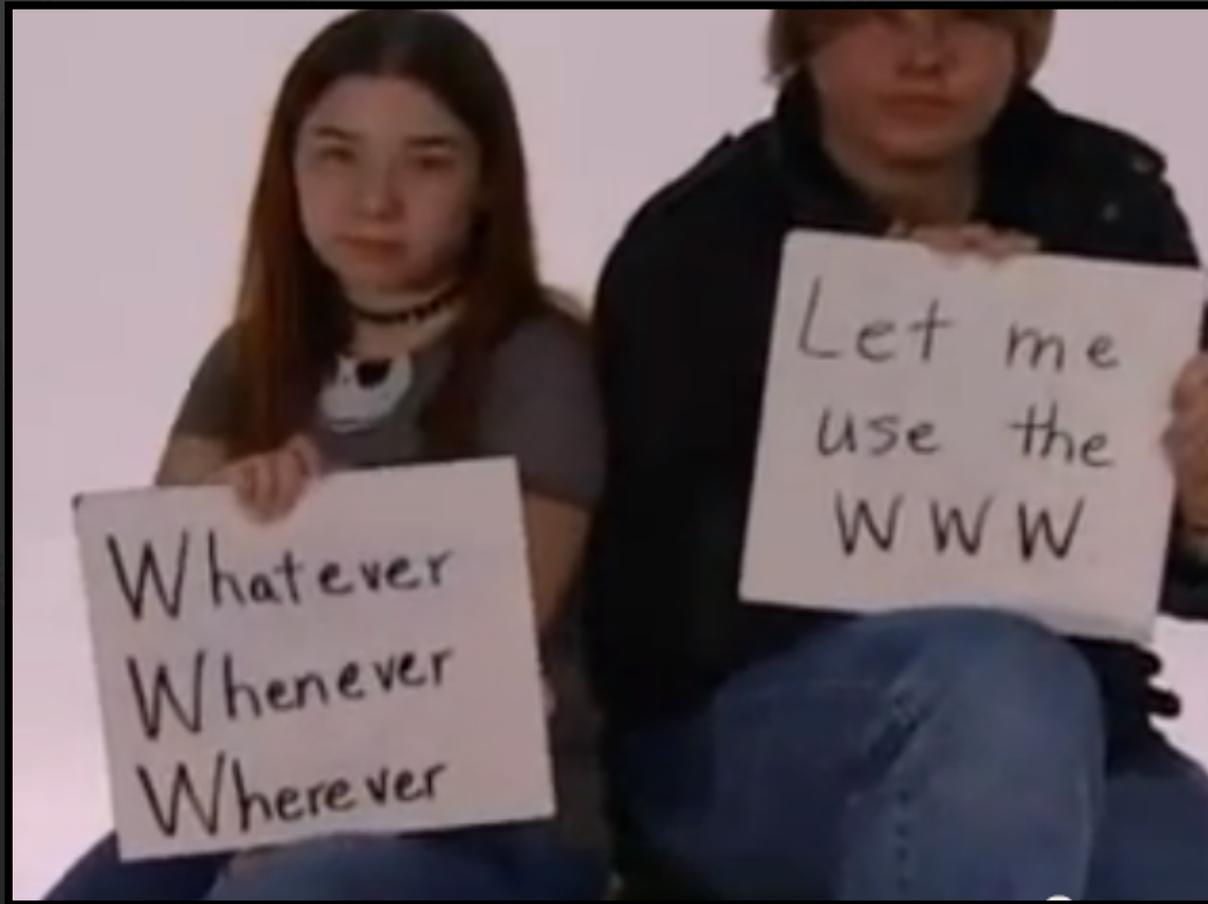


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But How Do Students Read Digital Content?

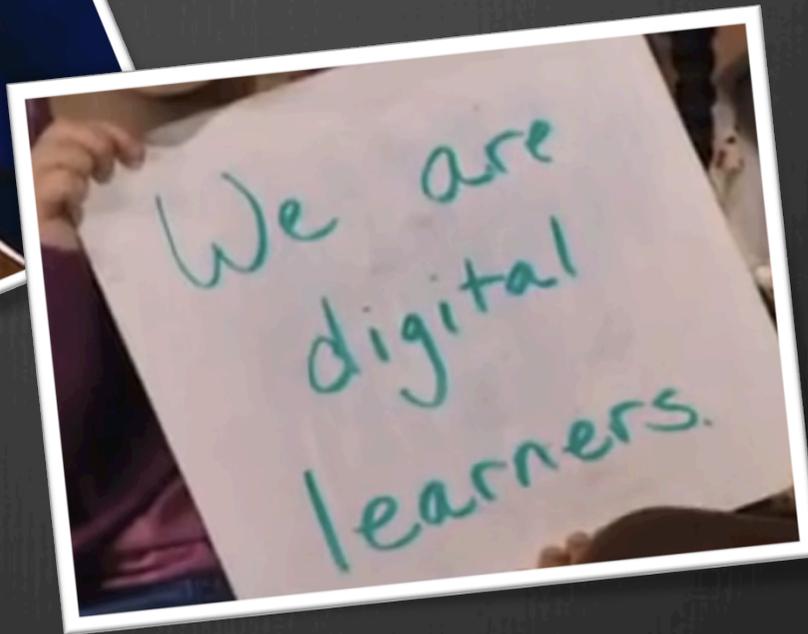
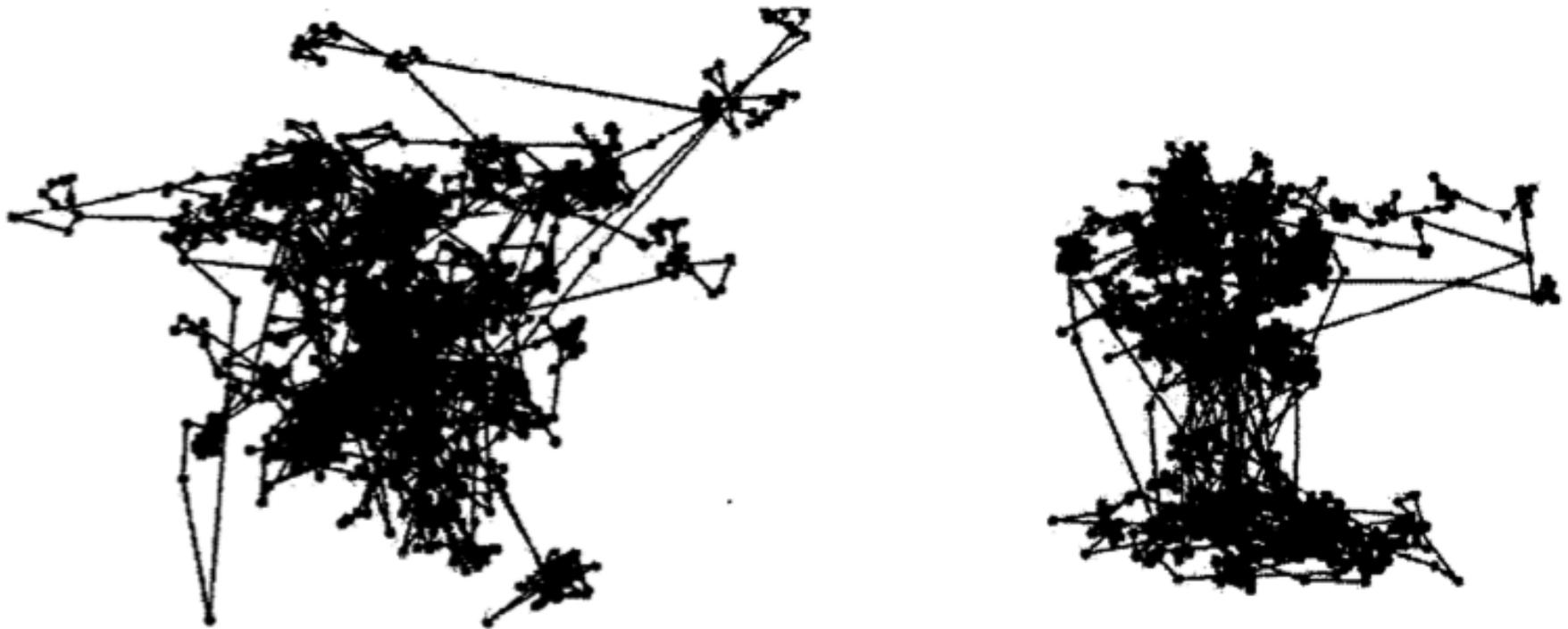


Photo: http://www.youtube.com/watch?v=_A-ZVCjfWf8

Digital and Print Eyetracking



Source: Jensema (2003). <http://www.dcmp.org/caai/nadh134.pdf>

Digital Eyetracking

A Christmas Carol

Charles Dickens

Chapter 1 - Marley's Ghost

Marley was dead: to begin with. There is no doubt whatever about that. The register of his burial was signed by the clergyman, the clerk, the undertaker, and the chief mourner. Scrooge signed it. And Scrooge's name was good upon 'Change, for anything he chose to put his hand to. Old Marley was as dead as a door-nail.

Mind! I don't mean to say that I know, of my own knowledge, what there is particularly dead about a door-nail. I might have been inclined, myself, to regard a coffin-nail as the deadest piece of ironmongery in the trade. But the wisdom of our ancestors is in the simile; and my unhallowed hands shall not disturb it, or the Country's done for. You will therefore permit me to repeat, emphatically, that Marley was as dead as a door-nail.

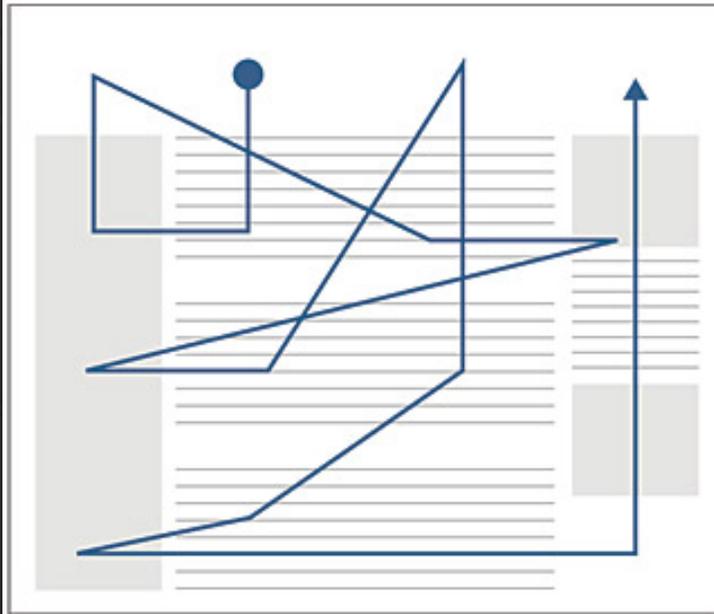
Scrooge knew he was dead? Of course he did. How could it be otherwise? Scrooge and he were partners for I don't know how many years. Scrooge was his sole executor, his

EYETRACKING THE NEWS

A STUDY OF PRINT & ONLINE READING
Poynter Institute



a. Poynter eye-tracking study



b. "F" pattern and the "golden triangle"



Source: Poynter.org <http://www.poynter.org/extra/eyetrack2004/viewing.htm#1.3>

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Byerly, Greg. (2007). Look in their eyes: Eye tracking, usability, and children. *School Library Media Activities Monthly*, April 2007, 30-32. (p. 31)

EYETRACKING THE NEWS

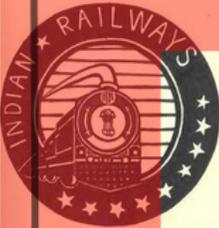
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Endless stories on Indian Railways 1

Posted on July 25, 2012 by Anshika Egit



I love traveling by train and particularly Indian Railways. Love meeting strangers; sharing a few hours of my life with them, knowing well that I won't meet them again. Whenever I travel alone, I always look forward to see whom will I be sitting next to. I think everyone has at least one unforgettable memory of the Indian Railways. Mine being the fairly recent interaction with a number of people, things, platforms etc that make up the institution called Indian Railways.

During a trip to Bombay, I narrated my whole story of how it took me 11 hours to cover 60 kms by train and all the adventures in between; to Anu and Rane. One story led to another and we realised that just between the 3 of us we had some 10 incidents related to rail journeys to tell. Apart from my Chalo Dilli experience, there was the 1st when I travelled 1st class from Delhi to Kolkata in Duronto and how both me and Sikander were truly impressed by the hospitality and class of the staff on board. No air travel can come close to the experience of railway 1st class!

Then there was this story that my dad used to tell so often –

"When I was a MR, I had to change trains at Bandkui station late at night and once I had a strange encounter, which I still sometime question if it really happened or was my imagination. It was very late at night, in fact it would be more correct to call it was very early in the morning. I was sitting on a bench, smoking my Wills and waiting for my train; when I saw this old man with a stick and blanket on his head come hobbling towards my way. He stopped in front of him and said if I have a light. And the moment I lit the matchstick and took it towards his face to light his cigarette all I saw was blankness"

For a long long time I thought this story to be true until I read Ruskin Bond's horror stories! ☹

Rane told about an incident where the up and down Geetanjali express used to meet at an intermediate station and that too on opposite platforms. One can imagine the confusion that would create. Passengers boarding from that station were always double checking if they boarded the right train!

Anu was telling about an incident when she and her mother had to board a train with departure time 12:05am. When they boarded the realised the seat was already taken. Now it's not very uncommon that 2 passengers have been given the same berth so they went to check with the TT where they discovered that they were a day late for the train!

We both enjoyed at recounting our 1st experience with Mumbai local trains. We were a group of 10 freshers going from BT to Bandra which meant changing train at Dadar. The local train stops for exactly 2 seconds on each stop and we realised Richa alone couldn't board the train! It was the time when cell phones were still a luxury and definitely not something that college students would possess. The rest of us in the train just kept

2

3

Search

- About me
- My Travel Map
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I'm tweeting about...

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Is it time for the death of the physical Dictionary? [#hardcopy](http://flobd.it/4PGoK) [#physicalbooks](http://flobd.it/4PGoK) 19 hours ago

Say cheese! RT

Source: <http://www.nngroup.com/articles/f-shaped-pattern-reading-web-content/>

EYETRACKING THE NEWS

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Source Poynter.org <http://www.poynter.org/extra/eyetrack2004/viewing.htm#1.3>:

EYETRACKING THE NEWS

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The screenshot shows a Microsoft Internet Explorer browser window displaying a news article. The address bar shows the URL: http://eyetrack.meris.com/story_pages/7_ell6.shtml. The article is titled "Would-be Investor Runs Afoul of Patriot Act" by Kathleen Powers, San Francisco Chronicle. The article text includes: "Shortly after he graduated from college in May, French Clements of San Jose tried to open an online brokerage account with Harrisdirect, where his stepfather has an account. A day after he completed the online application, however, he got a brief e-mail from Harrisdirect saying, 'We regret to inform you that we are unable to approve your application at this time: The customer's identity not properly authenticated per the USA Patriot Act.' Clements was stumped, and so was his mother, Anne Cathern. 'Maybe they don't like people called French,' she says. Changing his first name to Freedom would not help. Clements is an unintended victim of Section 326 of the Patriot Act, which requires financial institutions to verify the identity of anyone opening an account, maintain records of the information used to verify the person's identity and determine whether the person appears on any list of known or suspected terrorists or terrorist organizations. Banks, savings and loan associations, credit unions, securities brokers, mutual funds and futures merchants must comply with the act by Oct. 9. Many firms, such as Harrisdirect, are already doing so." To the right of the article is a photograph of President George W. Bush signing the Patriot Act, with the caption: "President George W. Bush signs the Patriot Act, Anti-Terrorism Legislation, in the East Room Oct. 26." On the right side of the browser window is a sidebar titled "TOP JOBS" with various job listings under categories like DENTAL, MEDICAL, LOAN, BANKING, FINANCE, HEALTHCARE, and BUSINESS.

Source: <http://www.redcmarketing.net>

Print Eyetracking Saccades

When a person is reading a sentence silently, the eye movements show that not every word is fixated. Every once in a while a regression (an eye movement that goes back in the text) is made to re-examine a word that may have not been fully understood the first time. This only happens with about 10% of the fixations, depending on how difficult the text is. The more difficult the higher the likelihood that regressions are made.

Source: http://www.scholarpedia.org/article/Eye_movements#Eye_movements_in_reading

Print Eyetracking Skimmers

Reading Example:

This person is reading the text for understanding. So even though not every word is fixated, the amount of time spent on each word is indicative of the processing of the word.

Skimming Example:

This person is skimming the text. This is most obvious from the pattern of fixations that are more dispersed and shorter fixation durations that is typical for this type of reading. The main gist maybe understood, but poorer memory for the text usually results.

eyetracker



Source: <http://eyetracker.com.au/examples/reading/>

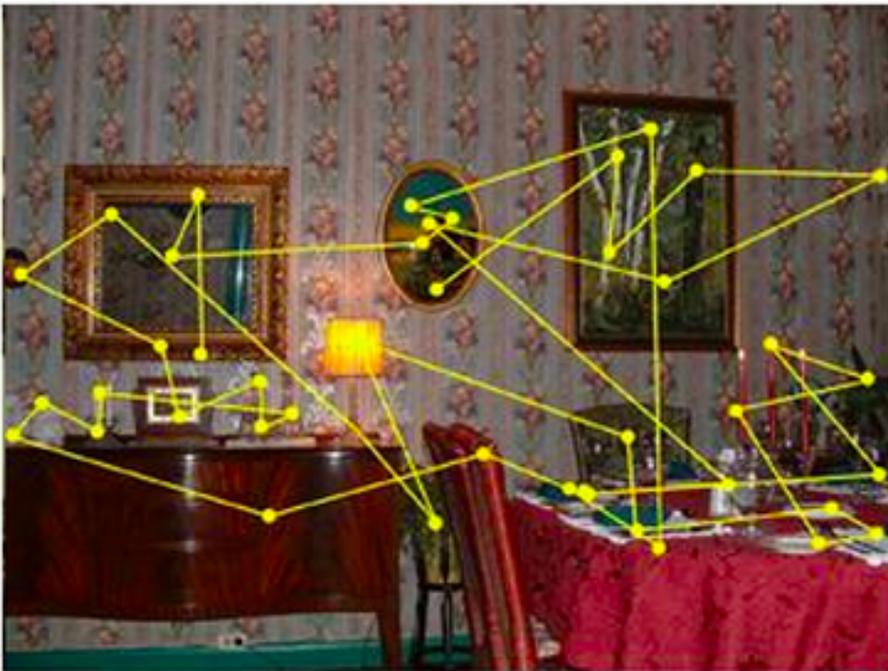
Eye Movement & Scene Perception



Source: http://www.scholarpedia.org/article/Eye_movements#Eye_movements_in_reading

Eye Movement & Scene Perception

Memorization Task



Visual Search Task



Source: http://www.scholarpedia.org/article/Eye_movements#Eye_movements_in_reading

Eyetracking Research

- Golden Triangle and “F” Pattern
- Saccades
- Text Matters on Screen
 - Text before images
 - Larger font size first
 - According to reader expectations
- Differences: Silent, Oral, Visual, Graphic
 - Live performance, auditory
- Reading is Procedural
 - Fixed gaze & peripherally
- Started in 1908, Edmund Huey
 - Attached aluminum pointer to cornea

Comprehension
Attention Visual Auditory
Cognitive Procedural



Dr. Keith Rayner
Distinguished Professor
Cognitive Psychology
University of Massachusetts



Dr. Monica Castelhana
Associate Professor
Cognitive Psychology
Queens University



How do students read?

How do students read?
They don't.

How do students read?
They perceive.

How Do Students Read in the 21st Century?

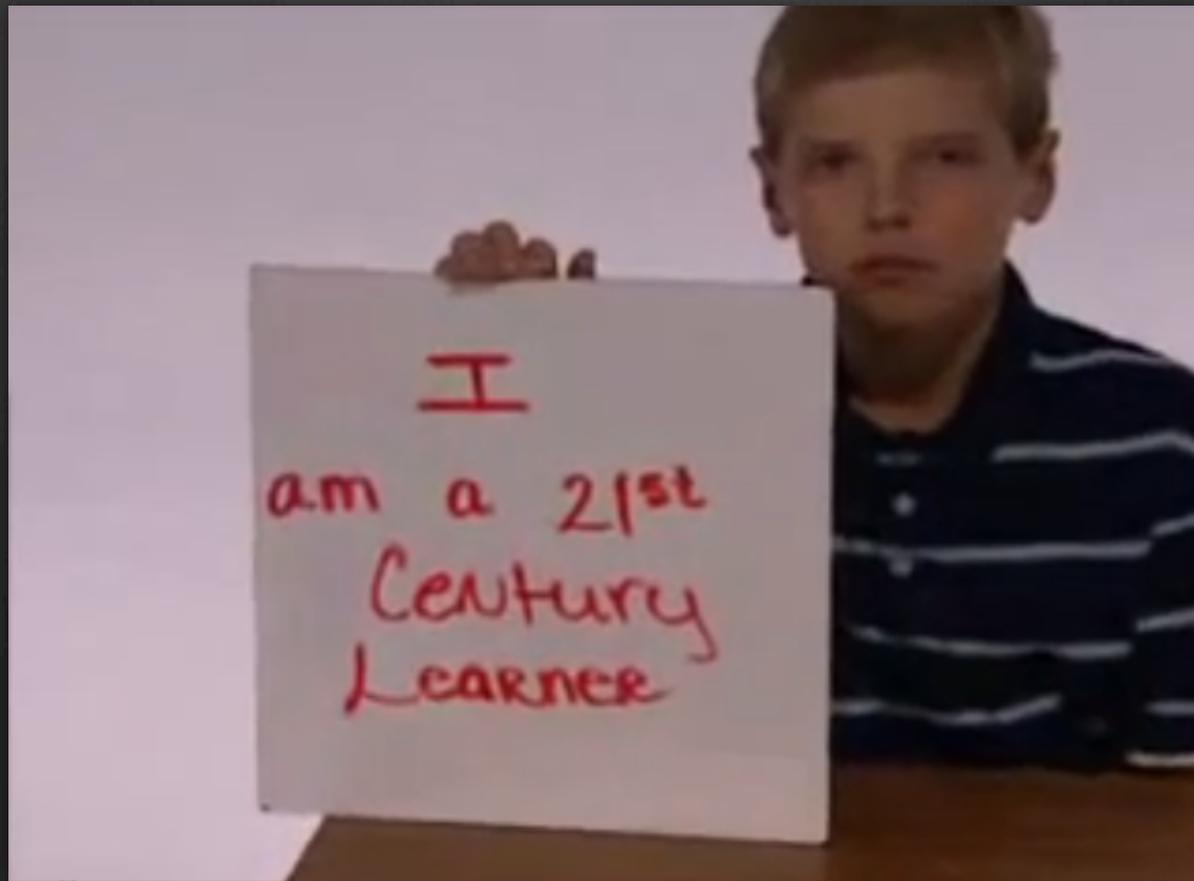


Photo: http://www.youtube.com/watch?v=_A-ZVCjfWf8

What Do You Think?

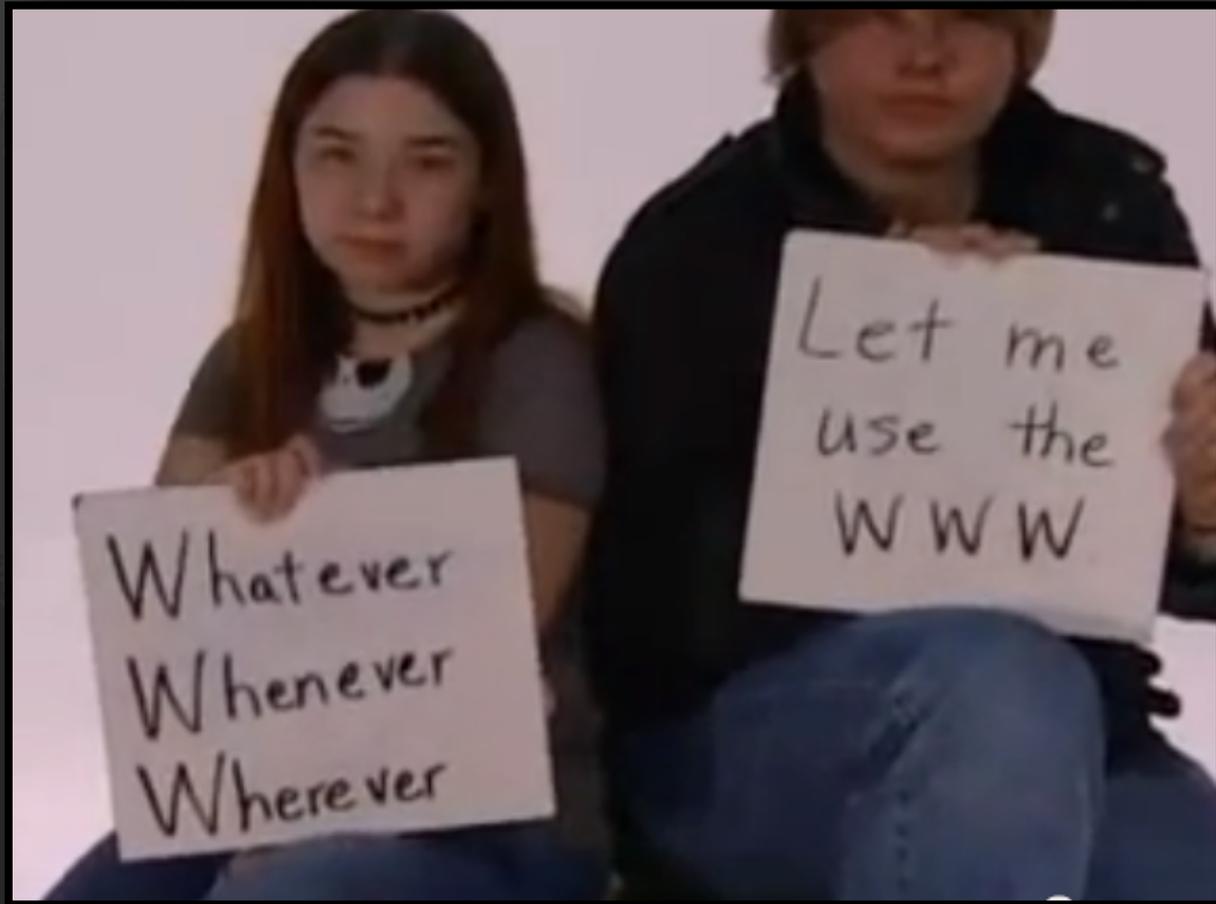


Photo: http://www.youtube.com/watch?v=_A-ZVCjfWf8

Shame

Technology

Creative
Voice

Diploma
Exam

THE ELEPHANT

in the room

Non
Readers

Classics

Parents

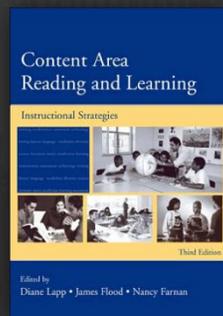
Diversity

Research

You are reading research
in the content areas.

How then will you teach?

What is your elephant in the room?



Email

Comments Questions

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