

Key Concepts

Information Foraging Theory

Derived from evolutionary ecology, this approach assumes people make strategic decisions when looking for information (Sandstrom, 1994).

Skimming for Meaning

Studies have shown people can remember things skimmed (Dyson & Haselgrove, 2000); though not flawlessly (Duggan & Payne, 2009).

Multimodality in Web-Based Interfaces

Reading online presents many challenges that can impact an individual's ability to comprehend (Coiro, 2003). Web pages are often cluttered. Rosenholtz, Li, Mansfield, and Jin (2005) define clutter as "the state in which excess items, or their representation or organization, lead to a degradation of performance at some task."

- We define **low-clutter** in this instance as web pages with minimal clutter and fewer multimodal options, but with the potential to embark on a reading path through the availability of hyperlinks.
- **No-clutter** environments like a reader interface reduce multimodal distractions entirely.

Research Questions

RQ1: To what extent, if at all, does using a readability application improve skimming comprehension in a lowclutter online environment?

RQ2: What are the perceived benefits or effects of using a readability application to skim articles for meaning?

Method

Twelve participants skimmed for meaning two articles of comparable complexity in each of the two documentation presentation environments.

- The low-clutter environment selected was the HTML document interface provided by EBSCO, a journal database.
- The no-clutter, streamlined readability environment was the Safari Browser (Apple) Reader[™] application

Afterward, respondents answered a series of true/false comprehension questions using Masson's (1982) method for assessing reading comprehension and took part in an exit interview.



Exploring Interface Effect on Skimming Comprehension: Comparing Low-Clutter and No-Clutter Documentation Presentation

Reader: No-Clutter

~	The Joyful Mind		UNIV »
	Listen Section: NEUROSCIENCE		Tool
	A new understanding of how the brain generates pleasure could lead to better treat- ment of addiction and depression and even to a new science of happiness		
	IN THE 1950S PSYCHIATRIST ROBERT HEATH OF TULANE UNIVERSITY launched a controversial program to surgically implant electrodes into the brains of patients in- stitutionalized with epilepsy, schizophrenia, depression and other severe neurological conditions. His initial objective: to locate the biological seat of these disorders and, by artificially stimulating those regions, perhaps cure individuals of their disease.		8
	According to Heath, the results were dramatic. Patients who were nearly catatonic with despair could be made to smile, converse, even giggle. But the relief was short-lived. When the stimulation ceased, the symptoms returned.		•
	To extend the potential therapeutic benefit, Heath fitted a handful of patients with but- tons they could press themselves whenever they felt the urge. Some felt the urge quite frequently. One patient a 24-year-old homosexual whom Heath was attempting to cure of depression (and of his desire for other men) was compelled to stimulate his electrodes some 1,500 times over the course of a single, three-hour session. According to Heath, this obsessive self-stimulation gave the subject, patient B-19, "feelings of plea- sure, alertness, and warmth (goodwill)." The end of his session was met with vigorous protest.	ed and reen m the	(
	The experiments helped to define a set of structures that would come to be known as the "pleasure center" of the brain. They also spawned a movement both in science and in popular culture to better understand the biological basis of pleasure. Over the next 30 years neurobiologists identified the chemicals that the brain regions delineated		
Apple	e's Safari Browser Reader™ app	licatio	on
	Size = 14 point		
LINE	Length = 66 Words		
Font	type = serif		
Strer	ngth = Line length		
Wea	kness = font size, font type		

Kringelbach, M. L., & Berridge, K. C. (2012). The joyful mind. *Scientific American*, 307(2), 40-45. (Joy)

67.88 65.57 **EBSCO** Reader Combined

Discussion & Conclusions

The low-clutter Reader[™] interface with its shorter line length had no effect for meaning as compared to the EBSCO document presentation interface and therefore would not aid in information foraging.

- All participants reported preferring the Reader[™] environment
- Participants reported reading rather than skimming when in the Reader[™] environment
 - one participant revealed having a severe learning disability in reading -- this individual's score was greatly improved by the readability application

Future Research:

- environments
- Repeat experiment:

 - disabilities

223. 414-449. 25.



Investigate readability applications and the effects on skimming comprehension in high-clutter

• with another readability application and optimize the font size, font type, and line length

testing instead for *reading* comprehension

 investigate uses for readability applications for reading and skimming in users with reading

Selected References

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