Information Overload and Anxiety

After reviewing this material, you should be able to:

- recognize and explain the common sources of information anxiety
- discuss methods and strategies for preventing and overcoming information overload
- explain the role of visual image, and visualization, in human perception and communication
- discuss how to build your own dynamic model of communication

Understanding the Message: Access versus Overload

Much of our discussion of information overload and information anxiety is drawn from the very effective and entertaining books on this subject by Richard Saul Wurman, graphic designer, architect, professor, and recipient of NEA fellowships and Guggenheim and Chandler awards: Information Anxiety, Doubleday, New York, 1989, and Information Anxiety 2, Que, Indianapolis, IN, 2001. You are encouraged to explore this important and fascinating subject in more detail than the venue of this course commentary allows, by reading Wurman's books and visiting his Web site, Information Anxiety. Wurman's insights into information anxiety and information filtering offer a range of insights that should be required for anybody with anything to do with communication and communicating.

Wurman writes that "a weekday edition of the New York Times contains more information than the average person was likely to come across in a lifetime in seventeenth-century England. More new information has been produced in the last 30 years than in the previous 5,000. About 1,000 books are published internationally every day, and the total of all printed knowledge doubles every eight years."

Meanwhile, the relentlessly dramatic expansion of electronic information on the Internet is doubling the production of information every two years.

"In one year the average American will read or complete 3,000 notices and forms, read 100 newspapers and 36 magazines, watch 2,463 hours of television, listen to 730 hours of radio, buy 20 CDs, talk on the telephone almost 61 hours, read three books, and spend countless hours exchanging information in conversations.

"The enormous multiplication of books in every branch of knowledge is one of the greatest evils of this age; since it presents one of the most serious obstacles to the acquisition of correct information, by throwing in the reader's way piles of lumber in which he must painfully grope for the scraps of useful lumber, peradventure interspersed."

Richard Saul Wurman
Information Anxiety, 1989
Thanks to the continued and exponential growth in computer-based information and communication technologies, the majority of workers in the Digital Age are knowledge workers. We must remain cognizant of the fact that information is not, in and of itself, knowledge. We convert information to meaningful knowledge by processing it through our own experience, dissecting what is important and useful from the irrelevant.

"To be information literate, a person must be able to recognize when information is needed and have the ability to locate, evaluate, and use effectively the needed information."

1989, Presidential Committee on Information Literacy

We all start out facing the Information Age with an apprehension about our seeming inability to deal with, understand, manipulate, or comprehend the ceaseless onslaught of information and the multitude of information mediums that increasingly dominate our lives.

"Information is power, a world currency upon which fortunes are made and lost. And we are in a frenzy to acquire it, firm in the belief that more information means more power."

Richard Saul Wurman
Information Anxiety, 1989

But the power of information is proving to be far from inherent. The burgeoning quantity of information, along with the escalating number of communication messages that we face most days, serves to blur the distinction between meaningful information and useless data, between available facts and useful knowledge. Humans have a limited, albeit evolving, capacity to effectively receive, process, and transmit images. This requires that we limit, and thereby inevitably distort, our perception of the world. We cannot perceive everything that is coming to us, and we are automatically selective about what we do notice. The greater the number of images demanding our attention at any given time, the more selective we are forced to become and, therefore, the more distorted our worldview becomes.

Too much information, plus too low a capacity to process it into meaningful messages and useful knowledge, creates anxiety and uncertainty. Anxiety and uncertainty in communication result in miscommunication, misunderstanding, and a tendency to block further communication.

In his books, Information Anxiety and Information Anxiety 2, Wurman advocates an approach for dealing with information anxiety. Realize that you will never understand everything because there is simply too much information available. Then, develop a "theory" of information processing that serves as an "intellectual armature" that allows only certain facts in; other inconsequential facts can be screened out, untouched, not to be worried about.

"When it comes to information, it turns out that one can have too much of a good thing. At a certain level of input, the law of diminishing returns takes effect; the glut of information no longer adds to our quality of life, but instead begins to cultivate stress, confusion, and even ignorance. Information overload threatens our ability to educate ourselves, and leaves us more vulnerable as consumers and less cohesive as a society. For most of us, it actually diminishes our control over our own lives, while those already in power find their positions considerably strengthened."
Picking Ripe: There are just some things you can't do in cyberspace

By Paul Levinson, Omni magazine, 1994

My grandmother had a reputation as a fruit squeezer among the bustling stalls off Pelham Parkway in the Bronx. "Mrs. Hoff," they'd see her coming, "we've got some great cantaloupes for you." And they'd hand her one which she'd hold up to the light, divine in some indefinable way, and either accept or reject regardless of the hype from the fruit store. And she'd do the same for every carrot and head of lettuce she bought.

In-person presence—the full interplay of every relevant sense in the sensorium—was the only way of interacting with reality for my grandmother. At least insofar as fruit and vegetables were concerned. (She did, however, read the newspapers.)

The twentieth century can be regarded as an age of increasing surrogacy in our relations with the outside world. We started a hundred years ago with a shift from live theatrical performances to movies on the screen. Midway through the century, more and more people started watching movies at home on little TV screens rather than going out to public theaters. Recently we've acquired the option of ordering movies for our TV screen via pay-for-view, eliminating the quick trip to the video store.

All this, of course, pales in vicariousness to the precincts of VR [virtual reality] and cyberspace, where not only our interactions, but the very stuff of our choices is an informational construct, a digital concoction through and through.

What residue of fruit-handling will be left in the twenty-first century? Is the yearning that people feel for in-person presence a nostalgia akin to the preference for typewriters and ink pens?

Not likely—certainly not for some aspects of life which can only be experienced in the flesh. A dinner at a fine restaurant, with its rich mixture of tastes, smells, sights, and sounds—a walk on a moonlit beach in August, soft sand and sanalogue. The hottest chats on the fastest networks hold not a candle to the restaurant and the beach. Some parts of our lives, I think we can safely say, will always be conducted with best result offline.

In-person environments still provide a dimension of choice. Since the digital world is deliberately constructed, it is inevitably prepackaged, and prepackaging limits options in its early phases. Ultimately the reach of purely informational access will offer options undreamed of in the old-fashioned store,
Today, content creators, including journalists, have a responsibility to create and deliver information in a manner that contributes to the receiver's ability to effectively process the information, extract the message, and convert it to usable knowledge. Ideas are the building blocks of our understanding of facts, but too many facts delivered in an unbalanced, untimely way clouds understanding. Facts can only be comprehended when delivered and received within a context of mutually understood communication. Because the interpretation of all facts is subjective, senders have the responsibility to deliver information that is formulated to clearly express the intent of the sender while recognizing that the message will be subjectively interpreted by the receiver in the normal course of extraction.

The more accurate the information and images transmitted, the "cleaner" the interpretation will be. The cleaner the message, the easier it is to extract useful meaning from, and the more it will be "noticed" by the receiver. The receiver is able to recognize the information as being relevant and useful, and thereby rising above the flood of information "noise." Messages and mediums that attract and focus the receiver's attention through clarity of image and information automatically create "affinity paths" between sender and receiver.

The overall challenge of information creators and transmitters is to create clever and effective methods, images, symbols, and styles that will grab and hold audience attention and establish this feeling of message affinity in the receiver, who will then pay attention and continue to select the transmitted information. The mass media, including advertisers, broadcasters, publishers, public relations companies, political parties, public opinion researchers, etc., invest billions of dollars annually to create and deliver high-message-affinity information.

The process of the creation and transmission of information is laden with many pitfalls, all leading to misunderstanding, miscommunication, and an increase in information anxiety and communication uncertainty on the part of those receiving them. Wurman outlines these pitfall areas as follows:

**Problem of Familiarity**: Individuals who are so bogged down with their own knowledge, or what they think they know, that they regularly miss valuable information being transmitted to them.

**Looking Good is Being Good**: Confusing aesthetics with quality and performance. Irrelevant information being delivered in a pleasing manner. Information without message communication is no information at all. Graphic designers today often confuse looking good with being good.

**Self-Image Fear**: Occurs when a person's fear of looking stupid is allowed to outweigh the person's desire or need to understand, thus pretending to have knowledge that one does not.

**False Comparisons**: Attempting to compare unknowns or intangibles, things that in reality have nothing in common.

**Accuracy Equals Information**: Going beyond the facts to meaning and to recognizing the nature of the receiver. Accuracy and facts do not necessarily make a message understandable.
Unnecessary Exactitude: Not only is extreme accuracy (and or excessive detail) not always informative, it is often unnecessary and adds to bogging down the message in more noise. Just because the technology exists to provide a high level of information detail and accuracy, that does not mean that it is always appropriate or even desirable.

Rainbow Language: More "color" does not, in itself, increase understanding. Insidious over-dramatic or overly descriptive language inhibits, not enhances, image or meaning transmission.

Memory Dysfunction: The cramming of unnecessary information about unnecessary subjects, as in cramming for a college exam, can result in memory dysfunction where the individual loses short-term memory of the information they are trying to learn.

"User-Friendly" Intimidation: One of the most ridiculous terms in the language of technology, often meaning the exact opposite in techno-speak. The whole concept behind technological innovations is that they offer improved, easier, time-saving capabilities. To claim that a piece of equipment or software is "user friendly" or "computer friendly" is to immediately bring into question the "innovation" that is really being offered.

Expert Opinion: The tendency to believe that the more expert opinions we get, the better informed we become, ignoring the fact that most expert opinions come with built-in professional bias, and many with their own agenda, therefore all must be held to some level of suspicion by the receiver.

Uncertain Outcome: While not knowing how the plot of a suspense novel or adventure movie adds to our entertainment, not being able to extrapolate or project the consequence of information and communicated messages adds to our uncertainty and thus increases communication anxiety.

Information Imposters: Unfortunately, there is a large portion of nonsense traveling the Information Highway masquerading as useful information. Because we automatically give a certain credence to information based solely upon the form in which it is delivered to us, we are vulnerable to "information imposters."

Administrative Overload: Our complex institutions, universities, corporations, government agencies, etc., are often characterized by a preoccupation with generating procedures, requiring forms and reports, and creating databases requiring far more detail than is practical to use, and requiring far more time and effort than the value of the information thus created and stored will ever amount to. The Digital Age has not created less paperwork, but rather created more. This seemingly endless activity causes frustration and information anxiety.

Because we only learn things relative to the level of our ability to understand, all of these commonplace impediments to communication and understanding combine to constantly challenge our ability to sort through the noise, select what we need or desire, decide what holds value and relevance to our lives at any given time, and effectively process and interpret these to create meaning and information value. And, to accomplish all of this in an environment of increasing information bombardment while keeping the level of our information and communication anxiety and uncertainty comfortably low. This is the core challenge of communicators in the Digital Age.

**Image and Aesthetics in Communication**
Research psychologists working in the area of human perception have demonstrated that the visual image is by far the dominant source of information, having the strongest receptive impact for the great majority of people, regardless of cultural context. The majority of us learn more and have our worldview influenced most by what we see. Therefore, communication is principally visual. But what about radio, or audio books, or music, or communication by the sight-impaired? Even when we receive information through sound and hearing, our minds automatically convert this into "mental images" of what is being communicated—we automatically "visualize" to extract meaning, to understand, and to learn.

It is no small coincidence then that mass communication technology’s continuing exponential growth is having its greatest impact on our capabilities to create, transmit, receive, store, and manipulate visual images. Because so much of the information we receive and process is visual, and because the trend in technological innovation—multimedia, multi-medium, high-speed, broadband communication—is continuing to improve the quantity, quality, and impact of image communication, it is important that we look briefly at why things look the way they do.

There are four major theoretical traditional models of how we perceive:

**Inference Theory**: Images look as they do, and we extract meaning from them, because of the inferences we make about what a given image, or set of images, most likely represents.

**Information-Processing Theory**: Images look as they do, and we extract meaning from them, because of the sequence of representations and calculations we make following the perception of an image or series of
Gestalt Theory: Images look as they do, and we extract meaning from them, because of the spontaneous interaction between our brains and the components making up the image we perceive.

Psychophysical Theory: Images look as they do, and we extract meaning from them, because of the stimulus we receive from an image that is sufficient to stimulate preexisting biochemical pathways to enable image recognition and use.

As science and research have progressed through the late twentieth century and now into the twenty-first, what has clearly emerged is an eclectic composite model of how we "see" images, made up of a combination of all of the processes advanced in these four theories. What emerges is a dynamic model of human perception that supports an astounding capability for adaptability, learning, communication, innovation, and creativity. Our ability to think and learn increases exponentially in relation to our ability to perceive, process, and interpret visual information; and in the case of sound, our incredible ability to immediately convert what we hear to "mental images" that we can process.

Image aesthetics refers to the appropriateness of images that are transmitted to us or that we select to include in content that we are creating. A high-aesthetic-value image is one that enhances the content, contributes to the receiver's ability to "visualize" the meaning contained in the content, and supports the receiver's developing an affinity to the content. Effective and creative use of images draws us into the content and aids us in extracting and understanding its meaning.

We continue to develop new technologies that expand the power and speed of creating, transmitting, and receiving images. The evolution of man's abilities and capabilities is inextricably connected to the evolution of our technological innovation. What this means for communication professionals is that the creation and communication of meaningful content is dependent upon the quality and aesthetics of images.
Image professionals are eclipsing with writers and journalists to become, in the words of Richard Saul Wurman, "creative information architects." The communication professional of the twenty-first century will cross the previous boundaries of writer, journalist, graphic artist, computer technologist, broadcaster, publisher, to becoming effective and creative information architects. Because of the rapidly growing power of image in communication, communication professionals must both create content and "design" content, to be reached and be used by an information audience that is continuing to become more image demanding and sophisticated.

**Communication is Equivocal: There is no "Right Way" to Communicate**

All communication, regardless of message or medium, is equivocal. There is a plethora of theories and models of how humans communicate, predictions as to the direction that human communication is moving toward, and visions of our future as highly evolved technologically integrated communicating beings. Throughout this course commentary, we have endeavored to present an overview of the theories and models of communication that, as a communication professional, you will most likely encounter and should be able to recognize. We have emphasized communication theories and models that are most directly applicable as dynamics in the converging, technologically sophisticated communication environments and mediums that are integral to your career as a communication professional.

There is no "right way" to communicate. There is no perfect communication model or ideal communication medium. The dynamic processes and components that make up human communication are fluid. Understanding and participating in good communication is built upon an unfolding model that relegates all of us to the role of participant-observer. The more skills and capabilities we work to acquire, the more the integrated advances in technology and society demand of our participation.

Striving to understand these ever-changing dynamics, as we work to create and transmit content, is both the job and responsibility of today's communication professional. This responsibility also extends to becoming informed and critical information consumers, and to encouraging effective information and communication consumerism in others. As communication professionals—journalists, writers, broadcasters, publishers, web designers—we undertake to educate our audiences through both the content we create and through the communication mediums we build and use. Communication, in the end, is the catalyst
from which all individual, social, and cultural progression derives.

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