

*Statistical Literacy:
Understanding Numbers as
Information*

Library Issues Seminar
7 February 2000
Wendy Treadwell

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What is statistical literacy?

“The ability to understand and critically evaluate statistical results that permeate our daily lives--coupled with the ability to appreciate the contributions that statistical thinking can make in public and private, professional and personal decisions.”

--Katherine K. Wallman
Chief Statistician, OMB

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What is statistical literacy?

“Statistical literacy is a liberal art--not a mathematical science. In this sense, statistical literacy is a most important skill in dealing with a growing torrent of statistical data. Statistical literacy helps one answer the question asked of most statistics: ‘What does this mean?’”

-- Milo Schield, Augsburg College

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Understanding Numbers:

The problem is no longer the availability of statistics, but the mixed quality of the statistics available and how they are used. The questions we need to ask are:

- How do we know?
- Where is the evidence?
- Can the results be reproduced?
- Who disagrees?

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What do we think about statistics?

- “There are three kinds of lies: lies, damned lies and statistics” -- Disraeli
- There’s a reason I’m in Humanities...
-- CETH Conference Attendee

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Why statistical literacy?

“Statistics rarely lie, but people can and do misuse and misunderstand statistics. Statistical literacy can help the public know when statistics are being presented in a bogus manner and to understand what the statistics really mean.”

--Kenneth Prewitt,
Director, Bureau of the Census

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Numbers as Information:

- framework for considering a situation
- help to identify areas for further research
- differentiate between 'normal variation' and 'something significant'
- identify trends
- move the discussion from an anecdotal to a structural basis

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Numbers must be interpreted to become information:

- too much detail
- too little detail
- the "so what" factor
- looking for the who, what, why and how of numbers
- considering the three main factors of statistics: topic, time and geography

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Statistical Literacy is a basic skill:

the ability to **think critically** about arguments using statistics as evidence.

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