

# Information Seeking

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Reference Interviews  
KAN Min-Yen

# What is a reference interview?

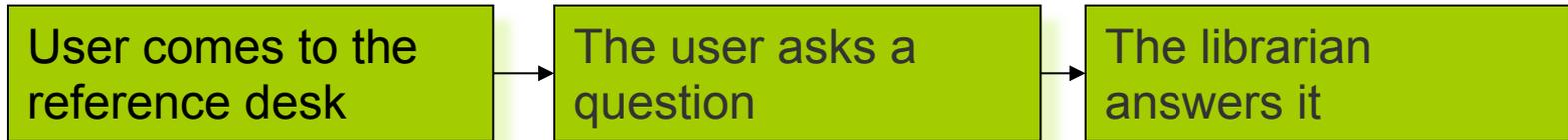
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- Process where the user comes to the reference desk and asks for information
  - What type of information do people ask for?
  - What are the characteristics of a reference interview?
  - What factors lead to a “successful” reference interview?
  - How do we evaluate reference interviews?



# RI as a process: a first point of view

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# RI as an information transfer process

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- Check whether a (human) system provides the user with a right answer
  - Complete
  - Accurate and timely
- What is the percentage of questions answered correctly?



# A Librarian's Lament

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We have enticed the academy into cyberspace...without us.

We have proven the value of library resources...but not the librarian

*- R. David Lankes  
(Director of Institute of Information Systems,  
Syracuse University)*

# Why only 55%?!?

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## Some explanations:

- easy questions may have been eliminated (e.g., no direction queries).
- questions may have been time-sensitive and/or unusually difficult.
- Murfin (70) shows that librarian often misinterprets the question asked.
- Gives definitive answer without verifying with user's need.

# One reference interview

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- The librarian:
  - I think it went all right from my viewpoint because I didn't have to really interact too much. She seemed capable, she seemed to know what she was doing. I felt she had found what she wanted because she said she had what she needed. She seemed to be capable of handling it on her own.

- Radford (99)
  
- Would you say that this was a successful interview?

# One reference interview

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- The student:
  - I felt like she couldn't help me on my subject. Isn't that she didn't know the answer, but I felt that she didn't want to [help]... she looked like she did not know what I was talking about, a blank stare and also almost like irritated.
- Would you say that this was a successful interview?





# RI as an communicative art

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- When a group of MLS students were sent on a mission to the library to ask a question...
  - 60% said that they might ask another question in the future
  - 30% said that they wouldn't bother asking the librarian even if they have an information need
- No matter what form the reference interview takes on, a form of interpersonal communication takes place
  - Is not and cannot be free of relational dimensions
  - 1 good encounter ≠ 1 bad encounter

When attempts to find information fail, patrons *may* choose to approach the reference desk. If they do, the librarian becomes the *human* interface or mediator between the library and the users' need.

- The critically important moment when users approach and engage the librarian can be the point at which the complexities of the library are **gently explained, fears are calmed, and information becomes accessible**.
- If help is **withheld, given grudgingly, hurriedly**, or in a condensing manner, the encounter becomes the point at which the library appears even more inaccessible. Users can be left feeling **confused, frustrated, and sometimes personally defeated or humiliated**.

- paraphrased from Radford (99)

# Question Negotiation

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- Anomalous State of Knowledge (ASK)
  - A state in which the user “is unable to specify precisely what is needed to address their need”
- To help the librarian understand the needs of the user, Taylor (68) uses 5 question filters
  - Subject
  - Objective and motivation
  - Personal characteristics of the inquirer
  - Anticipated or acceptable answers
- Escalator Questions

# Types of queries in RI

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- Directional
  - *e.g.*, Where are the photocopiers?
  - 30-50% of all questions
  - 1 minute or less
- Ready reference – “factoid” questions
  - *e.g.*, Who is the prime minister of China?
  - 50-60%
  - 90% can be answered using standard references; 10%
- Specific-search
  - *e.g.*, Where can I find information on sexism in business?
  - 20%-40%
  - Depends on sources available
- Research Questions
  - *c.f.*, information ecology
  - very low frequency
  - Depends, but generally longer and more challenging (and fun)

# What about web search?

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Rose and Levinson categorized three broad areas:

- Navigational
  - Go to a website
  - E.g., `aloha airlines`
- Informational
  - Learn something
  - E.g., `2004 election dates`
- Resource
  - Download something / view something
  - E.g., `kazaa lite`

To think about: What's the percentage of queries in each category?

What's the current state of the art in query classification performance?

# Question Variability

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- The question alone does not determine its type
  - Aspects of the user
    - (adult, child, professor, student under deadline)
  - Scope of the query
    - (just for fun, winning a bet, for research)

## Other ways of classifying questions:

- Known items versus unknown (actual known item correctly formulated?)
- Data retrieval versus document retrieval (c.f., ready-reference vs. specific search)
- Faceted model of query retrieval (Nguyen and Kan, 07; time, space, authority aspects)



# Finding and evaluating materials

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- Once understood, the query has to be transformed into a search strategy
  - *e.g.*, does the scope of the query imply an article, a book or a bibliography? Do I need to do a catalog search?
- Once material is found, is it actually appropriate to the user?
  - *e.g.*, is the material suitable for citation in a high school report or research publication?

# Available sources in the library

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## ○ Access

- Bibliography

- *e.g.*, controlled bibliographies & (union) catalogs

## ○ Source

- Encyclopedias

- Fact Sources

- Dictionaries

- Biographical Sources

- Geographical Sources

- Government Documents

- CD ROMs

- Online Databases

- The Web



# The Information Chain

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- Primary sources
  - Conference proceedings, journal articles
  - Monographs
- Secondary
  - Collections
  - Indices
- Tertiary
  - Encyclopedias
  - Reviews

# Evaluating a source

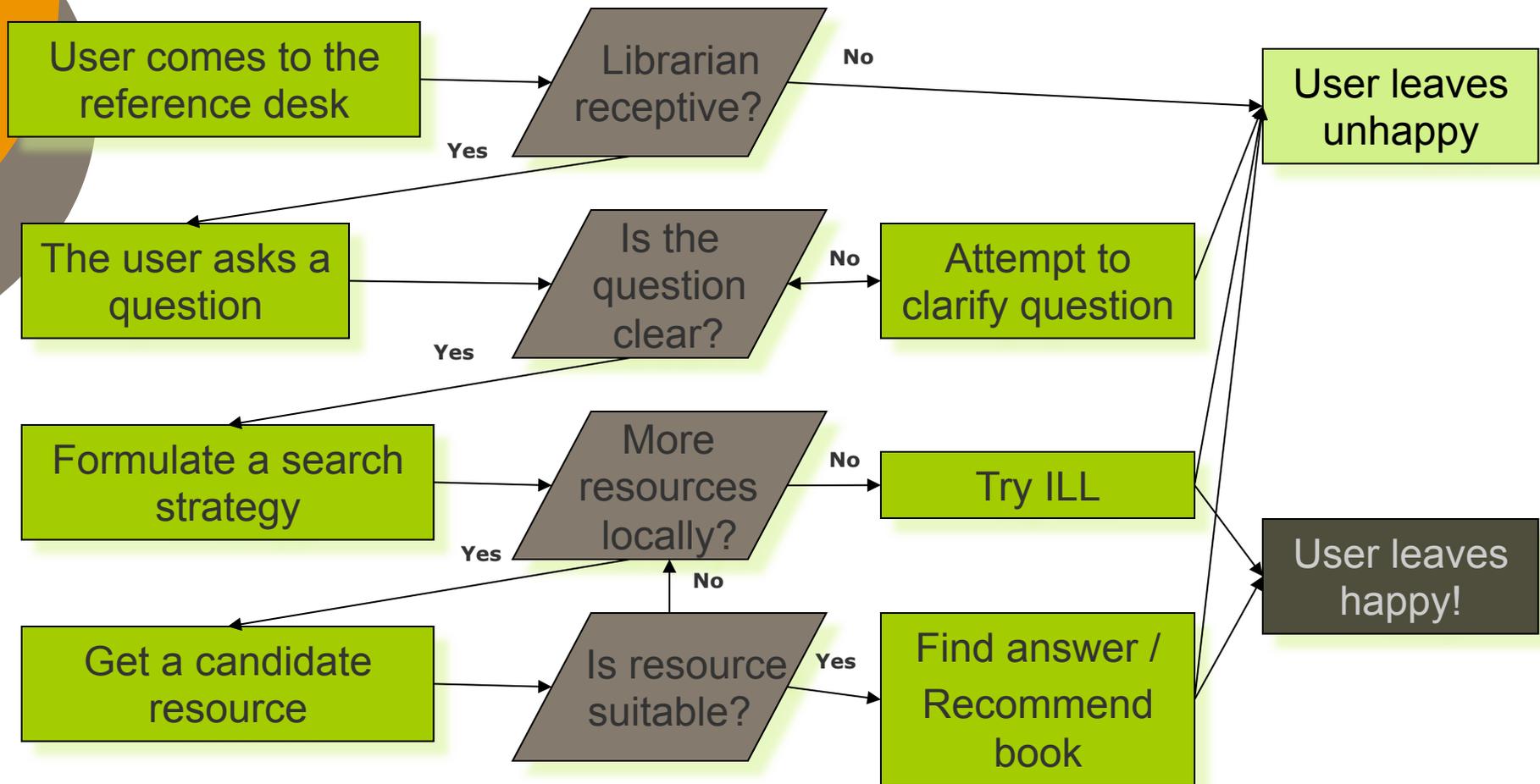
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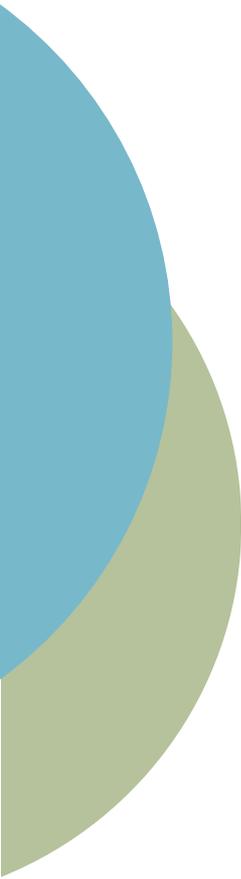
Many criteria to consider, including:

- Purpose
- Authority
- Scope
- Audience
- Cost
- Format

To think about: How do web hyperlinks or reviews perform on these criteria?

# RI as a process: revised game plan





# Information Seeking

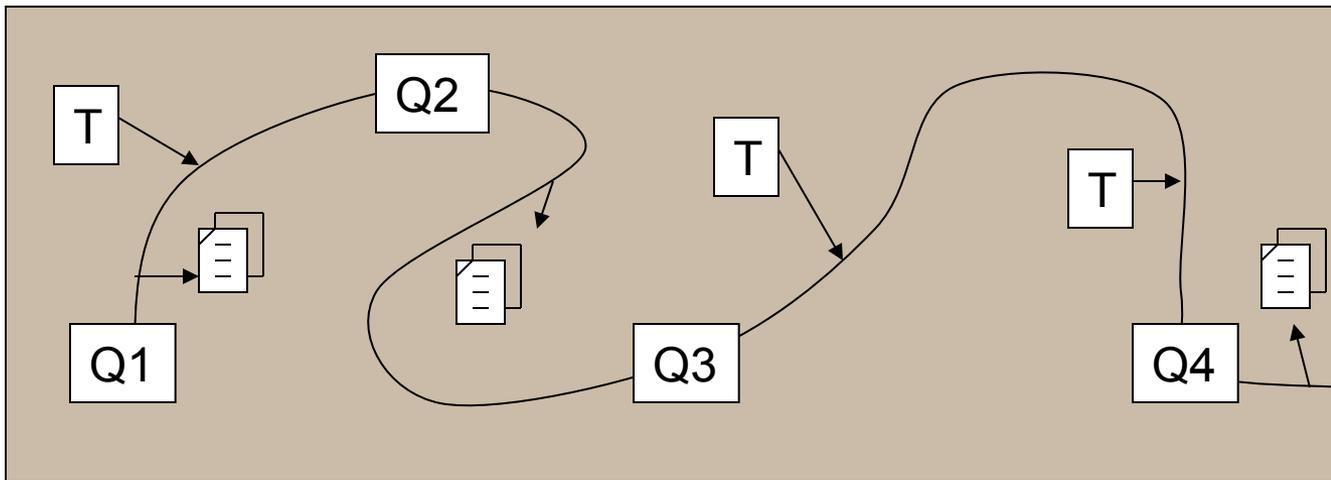
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Information Seeking Process  
KAN Min-Yen

# Why “seeking”?

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- Don't want to limit to “retrieval”
- IR: match query to documents.
- Seeking as the larger context: berrypicking or foraging



# Information Need

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- Taylor's (68) model of need
  - Visceral: The actual, but unexpressed need
  - Conscious: (ambiguous) need, not necessarily verbalized
  - Formalized: *e.g.*, a search statement
  - Compromised: Adapting the question to the resources at hand (the information system)

# Berry Picking

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“... picking blueberries in the forest. The berries are scattered on the bushes; they do not come in bunches. One must pick them one at a time...”

- paraphrased from Bates (89)

- The nature of the query is an *evolving* one
- The nature of the search process is such that it follows a *berrypicking* pattern
- The query is satisfied not by a final set of documents but by *references and information accumulated over the search period.*



# Information Foraging

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- Techniques that expert searchers use:
  - Footnote chasing (a.k.a. backward chaining)
  - Citation searching (a.k.a. forward chaining)
  - Journal run
  - Area scanning
  - Subject search in bibliographies and indices
  - Author search

How well does **LINC** support these functions? How about **Google**?



# Vocabulary Problem

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The fact that a user is looking for something means that they don't know what exactly they are looking for (otherwise, they wouldn't be looking in the first place)

- paraphrased from Belkin *et al.* (82)

- Therefore, they may not be using the right vocabulary to express their needs.



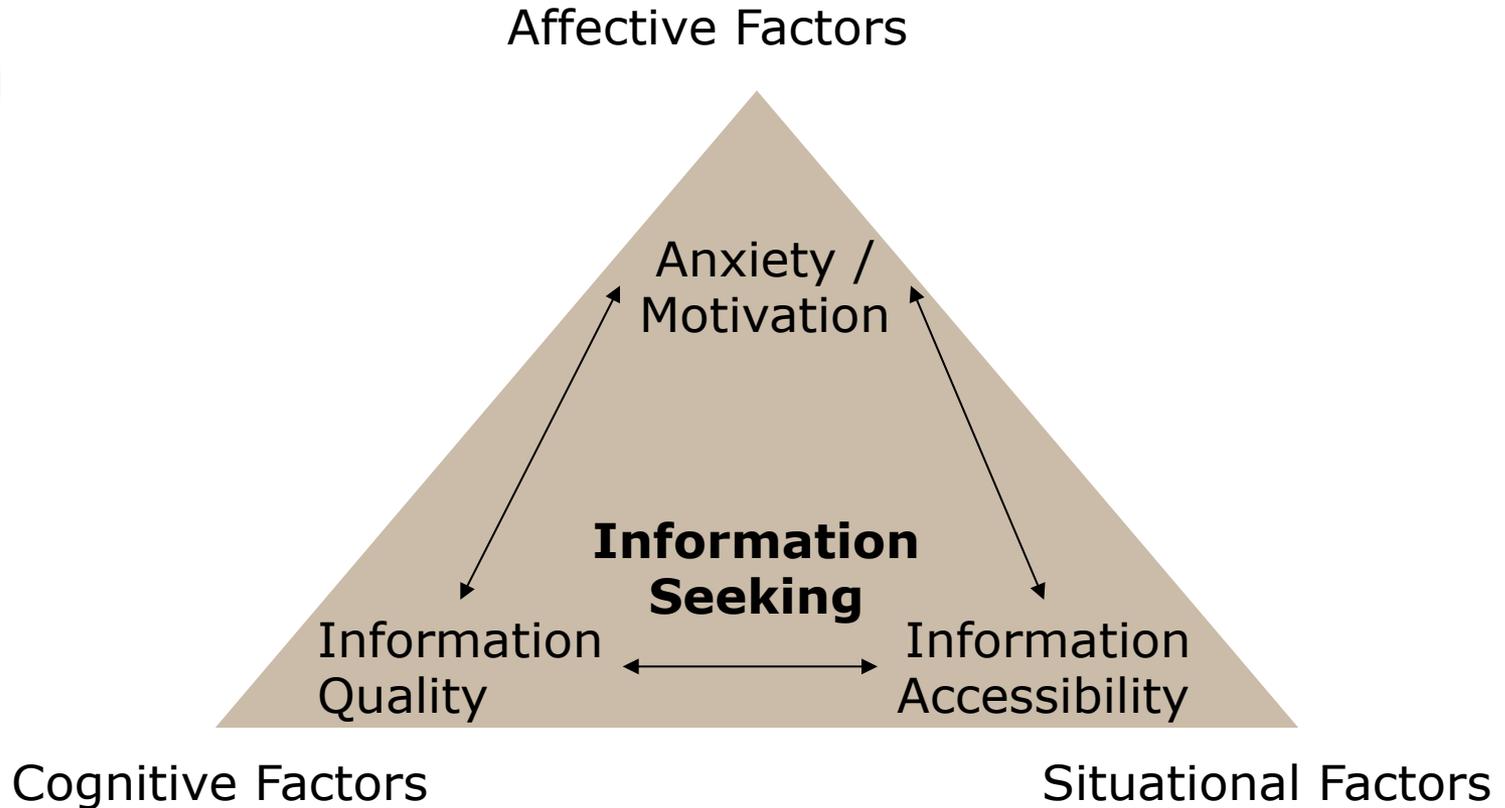
# Anomalous State of Knowledge

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- means that the seeker realizes that there is a gap or lack of knowledge in some area: an **ASK**.
  - Partial or even incorrect search results can alter the ASK and change the seeker's perception.

# Three aspects of Information Seeking

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From Choo *et al.*, 00



# Cognitive Factors

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- Selecting a source that is most relevant and useful

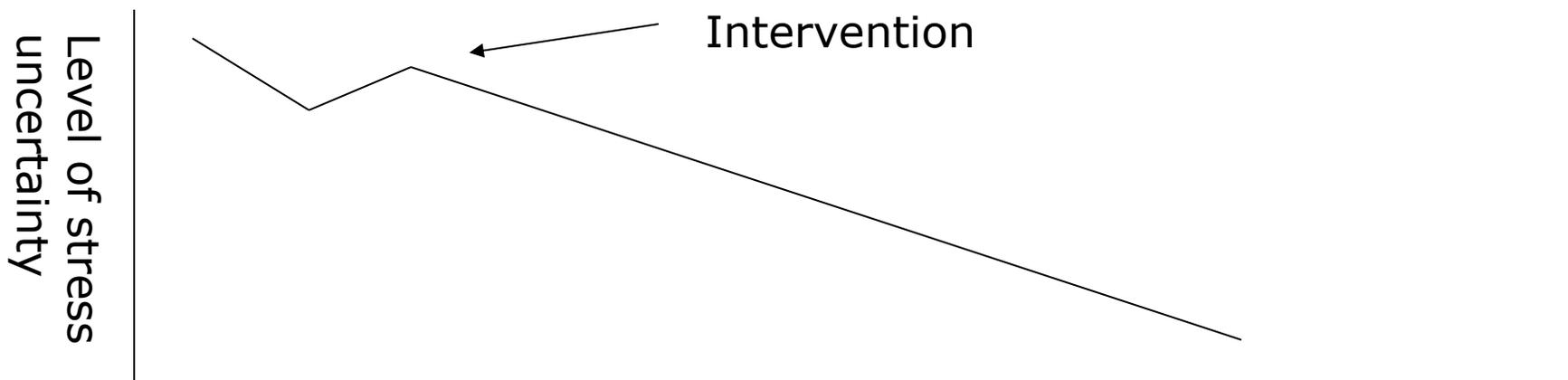
## Recap:

- Purpose
- Authority
- Scope
- Audience
- Cost
- Format

# Affective Factors – Kuhlthau (93)

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- Initiation: uncertainty
- Selection: optimism
- Exploration: confusion/frustration/doubt
- Formulation: clarity
- Collection: sense of direction and confidence
- Presentation: satisfaction or disappointment





# Implications of Kuhlthau (93)

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- Users tend to try to move towards certainty
- Vague, invitation mode transforms to focused, indicative mode
- Corollaries:
  - Too much redundant information = boredom
  - Too much unique information = anxiety
  - Unfocused search without selection/formulation gives information overload = anxiety



# Situational Factors

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Often the most important situational factor:

Perceived source accessibility

- Principle of Least Effort – Zipf 49
  - Rural libraries get less utilized than urban ones
  - RBR / ILL services / acquisition library features rarely used

# Dimensions of Accessibility – Culnan (85)

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- Physical / Automated library
  - Physical (gaining access to the store):  
Location, location, location!
  - Interface (translating a need to the store):  
Catalog use, organization of library
  - Informational (retrieving potentially relevant information):  
Locating the book, article

What about the digital library?



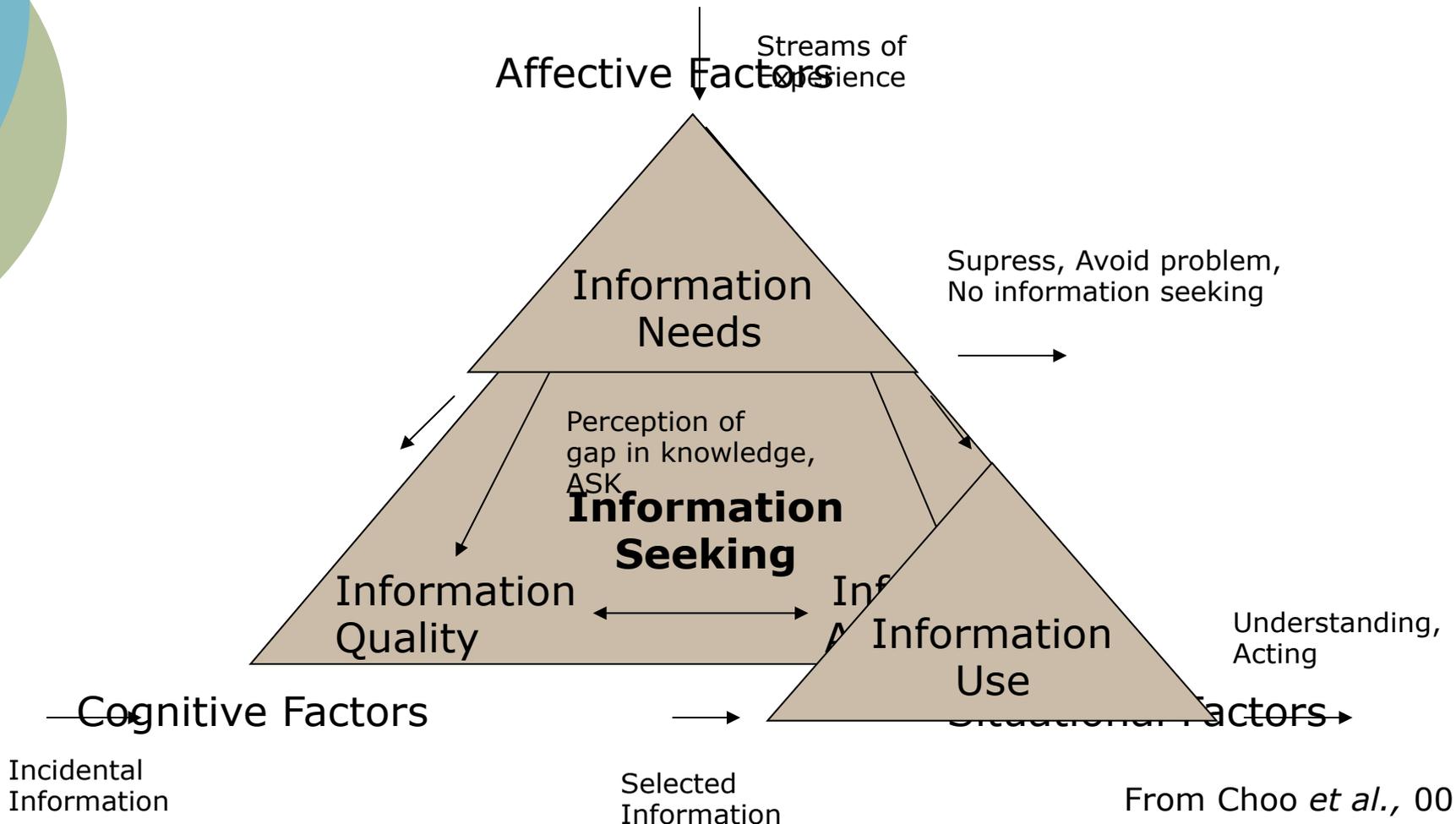
# Quality is (often) secondary!

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- People often access easily accessible material first irrespective of quality
- But informed professionals accept ideas from sources in proportion to their technical quality

But what about the **uninformed**?

# Putting the models together



From Choo *et al.*, 00