Information Seeking

Reference Interviews
KAN Min-Yen
**What is a reference interview?**

- 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

User comes to the reference desk → The user asks a question → The librarian answers it
RI as an information transfer process

- 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

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%?!?

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

- 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

○ 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

- 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

- 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

- **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?

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

- 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

- 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

- **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

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

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

User comes to the reference desk

The user asks a question

Formulate a search strategy

Get a candidate resource

Librarian receptive?

Is the question clear?

More resources locally?

Is resource suitable?

Find answer / Recommend book

User leaves unhappy

Attempt to clarify question

Try ILL

User leaves happy!
Information Seeking

Information Seeking Process
KAN Min-Yen
Why “seeking”? 

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

- 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

“... 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

- 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

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

- 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

- Affective Factors
  - Anxiety / Motivation
- Information Seeking
  - Information Quality
  - Information Accessibility
- Cognitive Factors
- Situational Factors

From Choo et al., 00
Cognitive Factors

- Selecting a source that is most relevant and useful

Recap:

- Purpose
- Authority
- Scope
- Audience
- Cost
- Format
Affective Factors – Kuhlthau (93)

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

![Graph showing level of stress versus uncertainty with intervention point](image-url)
Implications of Kuhlthau (93)

- 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

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)

- 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!

- 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

Affective Factors

Streams of Information

Situational Factors

Cognitive Factors

Information Needs

Information Seeking

Information Quality

Information Use

Supress, Avoid problem, No information seeking

Understanding, Acting

Incidental Information

Selected Information

From Choo et al., 00