

Introduction

Overall research issue

How can the design of search result lists best support users' search strategies?

Fundamental question about search strategies

In what order do users tend to look at the entries in a search result list?

Strictly depth-first strategy

The user examines each entry in the list in turn, starting from the top

She decides whether to open the document in question before looking at the next entry

(Partly) breadth-first strategy

The user looks ahead ...

... to the end of the whole list

... or perhaps just a couple of entries

She then revisits the most promising entries to open the documents

Required methodology

Eye tracking of users processing search result lists

Experiment 2

Subjects

27 largely experienced web users, not including any subjects from Experiment 1

Task

As in Experiment 1, except:

Only 5 minutes per query

Extra motivation for selective opening of documents:

Only 10 in all could be opened

For each relevant document opened, an extra reward of 10 Euro cents was paid

For each query, 12 or 13 documents were in fact relevant

Coding

More detailed coding method applied than in Experiment 1 (cf. graph for Experiment 2)

Overall, a similar distribution of strategies



Experiment 1

Subjects

41 largely experienced web users

Task

Process a page of 25 search results returned by Google for the query *assessment center "building blocks"* (in German)

Goal: Acquire information to prepare for a visit to an assessment center

Time limit: 10 minutes

Behavior recorded

Mouse clicks and scrolling

Eye movements

Equipment

ASL 504 remote eye tracker

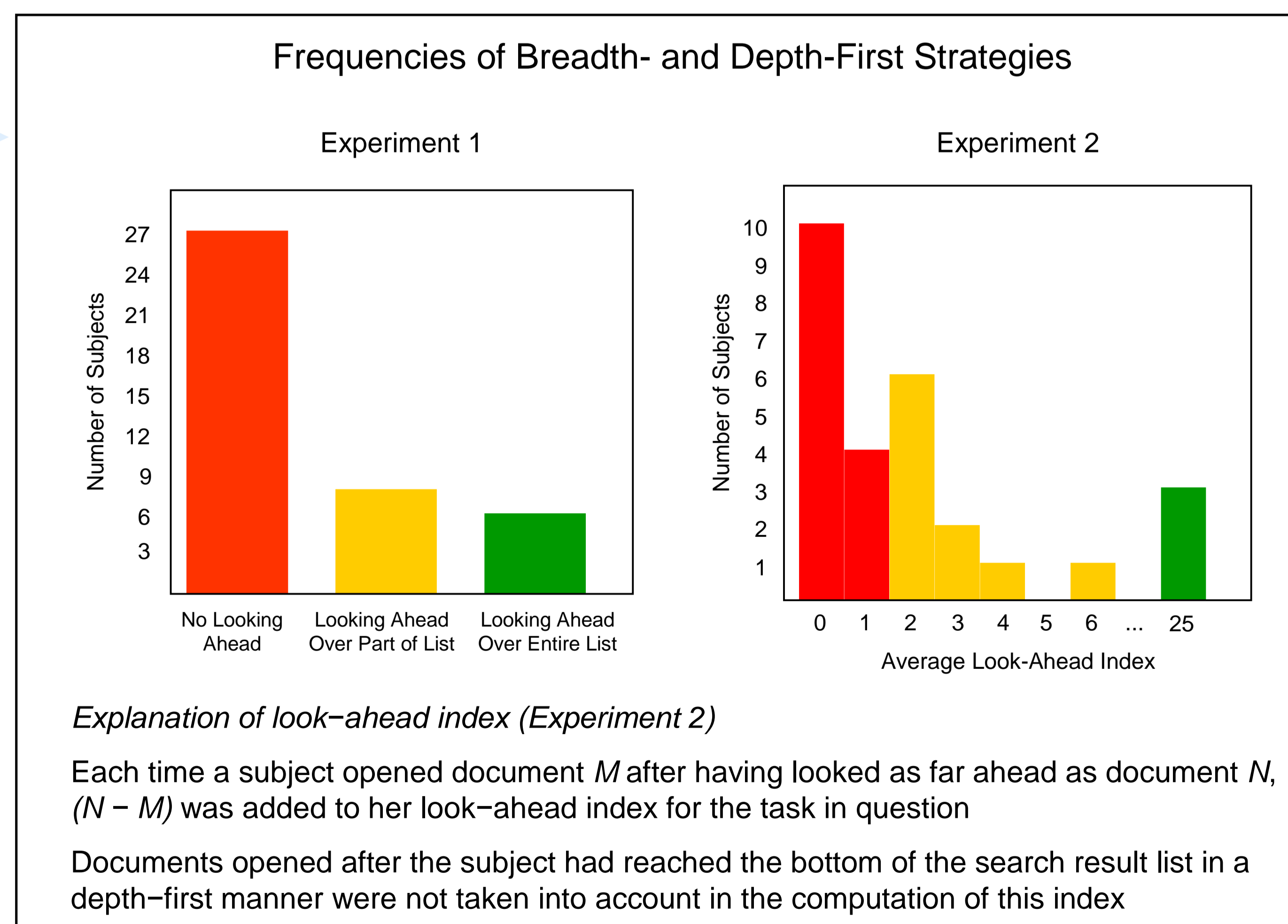
GazeTracker software

Coding

Based on video recordings with superimposed cross indicating point of gaze and on fixation plots (cf. the examples for Experiment 2)

Three types of strategy distinguished

Cf. graph for Experiment 1



Implications

Overall lesson

The design of search result lists should take into account the fact that a minority of users may process the list in a partly or entirely breadth-first manner

This strategy can be more effective than depth-first search where resource limitations encourage selective opening of documents

E.g., long download times; monetary cost for each document

Design issues raised

How can search result pages be designed to facilitate ...

... remembering entries that have been looked at and (at least superficially) evaluated?

... switching attention quickly between entries?

Solutions currently being investigated

1. Optional provision of check boxes (or radio buttons ...)

Cf. the screen shot on the right

Well received by *some* subjects, especially those who applied a breadth-first strategy

2. Design elements that make list entries more distinctive in short-term memory

E.g., colors, icons