Recognition Over Recall

Memory for recognizing things is better than memory for recalling things.

People are better at recognizing things they have previously experienced than recalling those things from memory. It is easier to recognize things than recall them because recognition tasks provide memory cues that facilitate searching through memory. For example, it is easier to correctly answer a multiple-choice question than a short-answer question because multiple-choice questions provide a list of possible answers; the range of search possibilities is narrowed to just the list of options. Short answer questions provide no such memory cues, so the range of search possibilities is much greater.[1]

Recognition memory is much easier to develop than recall memory. Recognition memory is attained through exposure, and does not necessarily involve any memory about origin, context, or relevance. It is simply memory that something (sight, sound, smell, touch) has been experienced before. Recall memory is attained through learning, usually involving some combination of memorization, practice, and application. Recognition memory is also retained for longer periods of time than recall memory. For example, the name of an acquaintance is often quickly forgotten, but easily recognized when heard.

The advantages of recognition over recall are often exploited in the design of interfaces for complex systems. For example, early computer systems used a command line interface, which required recall memory for hundreds of commands. The effort associated with learning the commands made computers difficult to use. The contemporary graphical user interface, which presents commands in menus, allows users to browse the possible options, and select from them accordingly. This eliminates the need to have the commands in recall memory, and greatly simplifies the usability of computers.

Decision-making is also strongly influenced by recognition. A familiar option is often selected over an unfamiliar option, even when the unfamiliar option may be the best choice. For example, in a consumer study, people participating in a taste test rated a known brand of peanut butter as superior to two unknown brands, even though one of the unknown brands was *objectively* better (determined by earlier blind taste tests). Recognition of an option is often a sufficient condition for making a choice.[2]

Minimize the need to recall information from memory whenever possible. Use readily accessible menus, decision aids, and similar devices to make available options clearly visible. Emphasize the development of recognition memory in training programs, and the development of brand awareness in advertising campaigns.

See also Exposure Effect, Serial Position Effects, and Visibility.

[1] The seminal applied work on recognition over recall is the user interface for the Xerox Star computer. See "The Xerox 'Star': A Retrospective" by Jeff Johnson and Teresa L. Roberts, William Verplank, David C. Smith, Charles Irby, Marian Beard, Kevin Mackey, in *Human Computer Interaction: Toward the Year 2000* by Ronald M. Baecker, Jonathan Grudin, William A. S. Buxton, Saul Greenberg, Morgan Kaufman Publishers, 1995, p. 53–70.

[2] Note that none of the participants had previously bought or used the known brand. See "Effects of Brand Awareness on Choice for a Common, Repeat-Purchase Product" by Wayne D. Hoyer and Steven P. Brown, *Journal of Consumer Research*, 1990, vol. 17, p. 141–148.

Early computers used command-line interfaces, which required recall memory for hundreds of commands. Graphical user interfaces eliminated the need to recall the commands by presenting them in menus. This innovation leveraged the human capacity for recognition over recall, and dramatically simplified the usability of computers.

```
[4:00am tmi2] pwd
/usr/group/juser/xxx1
[4:00am tmi2] ls -la
total 5
drwxr-x---   2 juser            540 Mar 28 03:45 .
drwxr-x--- 20 juser           4423 Mar 28 03:46 ..
[4:01am tmi2] cp ~juser/test.txt   .
[4:02am tmi2] cp ~juser/test/txt   text2.txt
[4:03am tmi2] ls -la
total 7
drwxr-x---   2 juser            512 Mar 28 03:45 .
drwxr-x--- 20 juser           3584 Mar 28 03:46 ..
-rw-r-----   1 juser           1522 Mar 28 04:03 test1.txt
-rw-r-----   1 juser           1522 Mar 28 04:02 test2.txt
[4:03am tmi2] pwd
/usr/group/juser/xxx1
[4:03am tmi2] cd..
[4:03am tmi2] pwd
/usr/group/juser
[4:04am tmi2] cp text.dat   ~juser/xxx1/test.dat
[4:05am tmi2] cp text.dat   ~juser/xxx1/testnew.dat
[4:06am tmi2] cd..
[4:07am tmi2] ls -la
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:52 .
:46 ..
:04 test.dat
:03 test1.txt
:02 test2.txt
:05 testnew.dat
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Close   ⌘W
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Save   ⌘S
Save As...   ⇧⌘S
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Revert
Import
Export
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Print...   ⌥⌘P
Print One Copy...   ⌥⇧⌘P
Quit   ⌘Q

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