4: UNDERSTANDING USERS
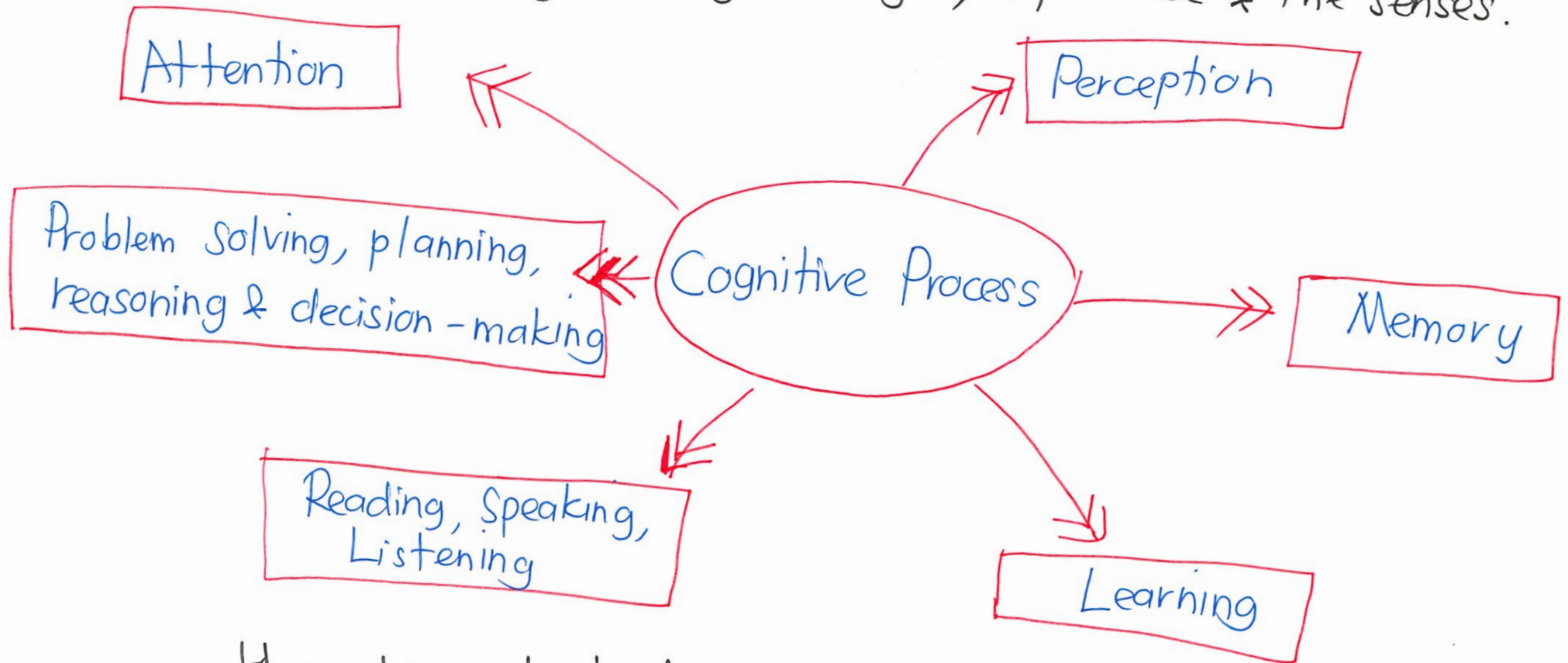
Cognition the mental action / process of acquiring knowledge & understanding through thought, experience & the senses.

Attention

Perception

Problem solving, planning, reasoning & decision-making

Cognitive Process

Memory

Reading, Speaking, Listening

Learning

How to understand users, esp. their cognitive aspects.
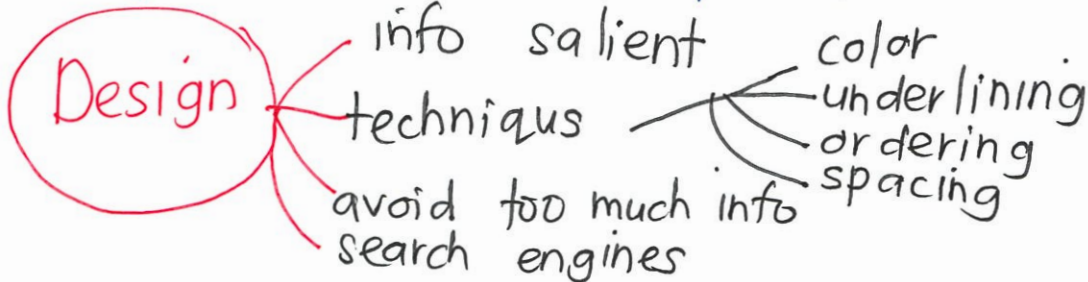
1 Attention

- process selecting things to concentrate on, at a point in time, from the range of possibilities available

auditory attention

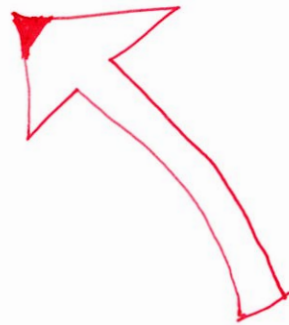eg. waiting dentist / waiting room for name to be called out to know when it is our time to go in

- allows us to focus on info that is relevant to what we are doing

visual attention

eg. scanning football results, checking team winning

goals — info presentation

Design
- info salient
- techniques — color, underlining, ordering, spacing
- avoid too much info
- search engines

2 Perception

- how info is acquired from the environment via different sense organs — eyes, ears & transformed, fingers into experience of obj, events, sounds & tastes

Vision
Hearing
Touch

Cognition

Design
- Icon
- bordering & spacing
- Sound — audible
- Speech o/p
- text legible & distinguish from background

3 Memory

- recalling various kinds of knowledge that allow us to act appropriately

Filtering
- what info gets further processed & memorized

Recognizing things

Design
- not overload users' memory with complicated procedures
- interface recognition
  - meny
  - icons
  - consistent placed obj
- variety ways of encoding digital info (files, emails, images)
  - categories
  - color
  - tagging
  - time stamping
  - icons

Cognition

4 Learning

- learn through doing
- GUI & direct manipulation interfaces → active learning

traditional techno	interactive techno
book ——→	web-based

- e-learning
- multimedia
- VR

Design implications

- interface
  - encourage exploration
  - constrain & guide users to select appropriate actions
- link concrete representation & abstract concepts

5 | **Reading, Speaking, Listening**

forms of language processing

6 | **Problem Solving, Planning, Reasoning & Decision Making**

reflective cognition

thinking
- what to do
- what options
- what consequences

Cognition

Design
- minimum length of speech-based menus & instructions
- accentuate intonation of artificial generated speech voices
- text large on screen

Design
- add hidden info es web searching
- simple + memorable functions at the interface