

PSYC230

Cognitive Psychology

Lecture # 1

Lecturer: Dr. Samuel G. Charlton

Office: K1.09

Tue & Fri 10.00 – 11.00



samiam@waikato.ac.nz

Lecture times

	Hamilton	Tauranga
Tuesdays 12.00 - 12.50	Room: LG.03	Room: B.01
Thursdays 10.00 - 10.50	Room: LG.03	Room: B.01

please attend both days

starting next week:

A one-hour laboratory session each week

Hamilton: **JB.03**

Tauranga: **G.20**

Hamilton	Tauranga
Sign-up sheets on	Tues 11.00 – 12.00
2 nd yr notice board	or
	Tues 13.00 – 14.00

PSYC230 Cognitive Psychology Laboratory Practical Times

Hamilton Campus

Room JB.03

Tues

Wed

Thur

1.00 – 2.00

1.00 – 2.00

1.00 – 2.00

2.00 – 3.00

2.00 – 3.00

2.00 – 3.00

3.00 – 4.00

3.00 – 4.00

4.00 – 5.00

Tauranga Campus

Room BG.20

Tues

11.00 – 12.00

OR

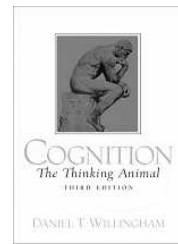
1.00 – 2.00

Required text

Cognition – The Thinking Animal, 3rd Edition

by Daniel B. Willingham

A desk copy will be
available in the library



Course Information available on Class Forum

ClassForum Home Online Campus Preferences Logout Search

Welcome Samuel George Charlton

ClassForum >

PSYC230-06B (HAM) Cognitive Psychology

Welcome to

Lecture Times: Tuesdays 12.00-13.00 & Thursdays 10.00-11.00
Lecture Rooms: In Hamilton -- LG.03
In Tauranga -- B.01 (Tue) & G.26 (Thu)
Lecturer: Samuel G. Charlton, PhD
Office K1.09

Cognitive Psychology Thur 9-10 & Fri 10-11

Announcements

e class...

Tell me more...

Folder: Bookmark | Edit | Copy Contents

Title	New Flag	Views	Last View
Lecture notes & course outline New			
Laboratory materials New			
Chatterbox New		101	8 Dec 2005 7:02 am

Assessment

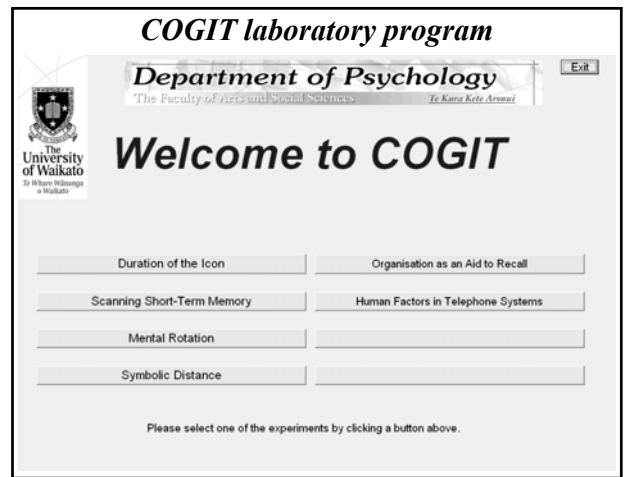
Test 1 (multi-choice) **35%**
Test 2 (multi-choice) **35%**

Laboratory Journal **20%**
5 short quizzes **10%**

What goes on in a laboratory practical?

Exercises to illustrate the principles discussed in lectures
an experiment to try out on you and your classmates

A quiz every other week
to help you keep up-to-date on your assigned reading
Quizzes usually have 6 easy questions worth 1/2 point each
(1st quiz in two weeks)



What about the Laboratory Journal?

Report describing practicals 4 through 5
1-2 pages on each experiment, describing:
What was the experiment supposed to show?
The cognitive principle
What was manipulated & what was measured?
Hypotheses, independent & dependent variables
How was it done?
The method: subjects, materials, & procedure
What did you find out?
The results (was the hypothesis supported?)
What was it like for you?
Your subjective impressions

INVITATION to elect a Class Representative for 2007

Class Representatives are elected to liaise between the students in the paper and the teaching staff, to help mediate on any relevant issues, and to pass on any academic feedback.

The elected Class Rep will need to fill in a registration form, and pick up a copy of the Class Representative Handbook (see your Lecturer or Department Admin)

need at least 1 from each location (Ham & Tga)

Cognitive psychology: The scientific examination of cognitive processes.

Cognition -- The mental processes of perceiving, remembering, thinking, talking, and understanding, and the act of using those processes.

3 Assumptions of Modern Cognitive Psychology

1. Mental processes can be studied scientifically
Cognitive Psychology uses *objective methods*, to collect facts, and formulate *principles and laws*
2. Humans are intentional, active information processors
Humans look for meaning in the world and use their experience & knowledge to find it
3. Mental processes take time & have resource and structural limitations
Speed and accuracy are key objective measures of mental processes



1865 Doctoral Dissertation
"Reaction Time and Mental Processes"

Calculating the "speed of thought"

Used reaction times to study the speed of mental processes: **Subtractive Method**

Franciscus Donders

Donders' Type A: simple reaction time, 150-200 msec

Donders' Type B: choice reaction time

Donders' Type C: go - no go reaction time

11 September 1956

Birthday of modern cognitive psychology

Conference at MIT:

Chomsky's influential paper on language

Miller's paper on 'magical' number 7

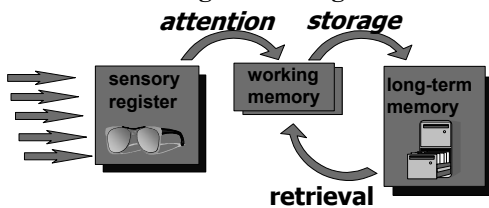
Newell & Simon's General Problem Solver

Bruner's paper on concept formation

Focus on cognitive processes, not behaviour

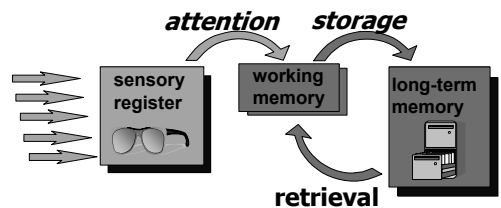
Human Information Processing model

A model for organising research findings about cognition

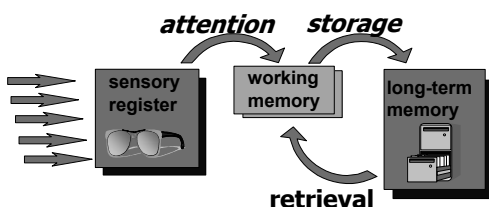


Sequential series of processing stages

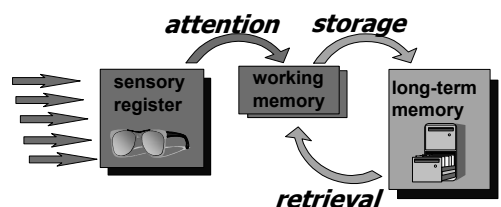
Information enters through the *sensory register*, a large capacity, very brief storage point, information selected for further processing via the *process of attention*



Working memory is where the information is used and made meaningful through a conscious process called encoding



Long-term memory is a large capacity organised system where information is stored and retrieved for future use



Structure & organisation of Long-Term Memory

Procedural: Knowing how,
implicit knowledge, no awareness

Declarative: Knowing that, explicitly
aware of two types of information:

Episodic: personally experienced
events and memories

Semantic: world knowledge,
language, & concepts

Procedural Memory: Knowing how, implicit knowledge, no awareness

Procedural memories are stored
as schemata or scripts

Restaurant Script

Entry conditions cust. is hungry, cust. has money	Props: tables menus food bill money	Roles: customer waiter cook cashier owner
---	---	---

component 1: Entering	walk into restaurant look for table go to table, sit down
component 2: Ordering	get menu look at menu waiter arrives give order to waiter wait (talk)

Episodic (autobiographical) Memory

personally experienced events
very context dependent
may need a strong retrieval cue

Lifetime periods

(major ongoing situations, living with
someone, a particular job, etc)

General events

(repeated or extended events, birthdays,
vacations, etc.)

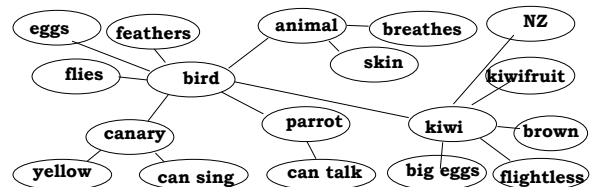
Event-specific

(images, feelings, details from
events lasting seconds to hours)

Semantic memory: world knowledge, language, & concepts

context-independent
organised in terms of related facts

Semantic Network



Problem Solving & Decision Making

People use short-cuts (called heuristics)
to make decisions that are just
“good enough”
Satisficing

Elimination by Aspects Rule (a heuristic)
Simplifying the decision by focussing on
one aspect at a time

Problem solving is a chain of decisions

Getting from the initial state to
the goal state

The key is how you represent the problem



Language

Communicative – transmits information
between individuals

Arbitrary – relationship between surface form and
referent is arbitrary

Structured – rules (grammar) are not arbitrary

Generative – infinite number of possible
utterances

Dynamic – language is constantly changing

