

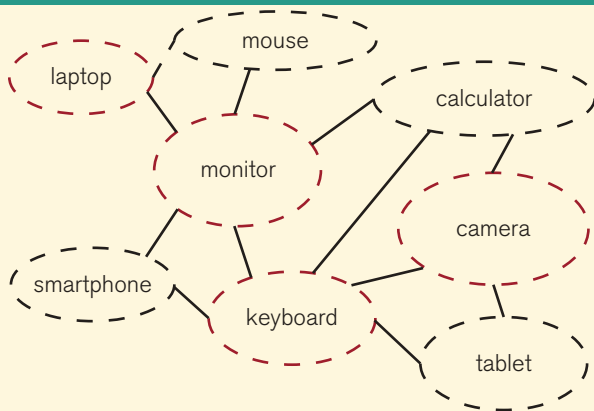
Figure 5.1 Encoding, Storage, and Retrieval

Encoding



Remember each of these objects:
laptop, keyboard,
monitor, camera

Storage



Retrieval



Which of the following items was
on the list?

mouse
smartphone
monitor
laptop

camera
tablet
keyboard
calculator

Figure 5.2 Atkinson and Shiffrin's (1968) Modal Model of Memory

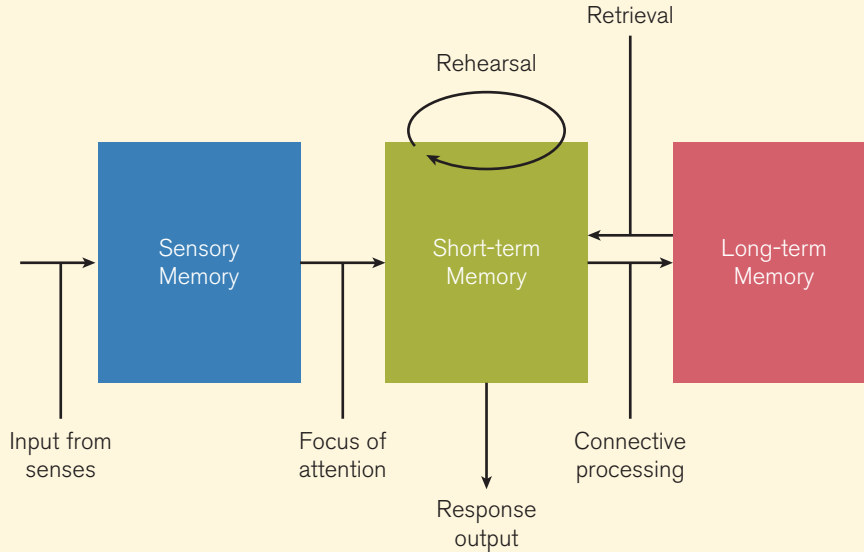


Figure 5.3 Partial-Report Method of Visual Memory Studies

Display presented for 50 ms

X	R	B	F
P	C	D	S
M	W	Q	Z

"X, R, B, F, uh..."



When one tries to report all the letters, the memory fades too quickly to report more than about 4.5 letters (about 38%)

Tone pitch indicates row to report

X	R	B	F
P	C	D	S
M	W	Q	Z

"P, C, D, S"

Medium tone



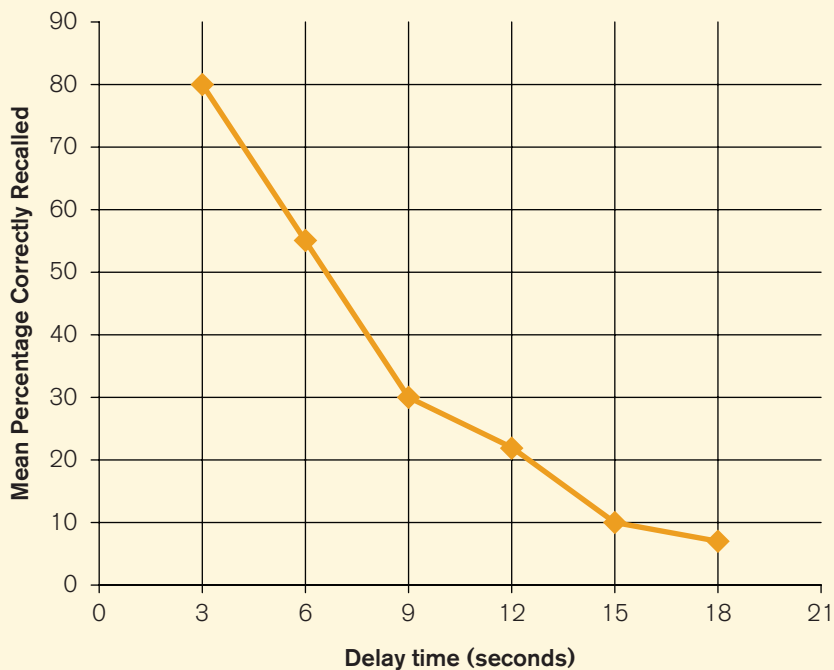
In the partial report method, one only reports a portion of the display and this provides an estimate of the portion of the display that is available in that length of time. Subjects can report about 75% of the letters with this method.

Figure 5.4 STM Studies



Remember GRX.
Count backwards from
576 for 3 seconds.

576, 573, 570, 567,



SOURCE: From Peterson & Peterson (1959), Experiment 1. Photo from Jupiterimages/Photos.com/Thinkstock

Figure 5.5 Decay Versus Interference

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

Time



Decay theory suggests that information fades from STM over time

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

RNH

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	RNH	CKP	WFD

In retroactive interference, new information displaces the old information

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

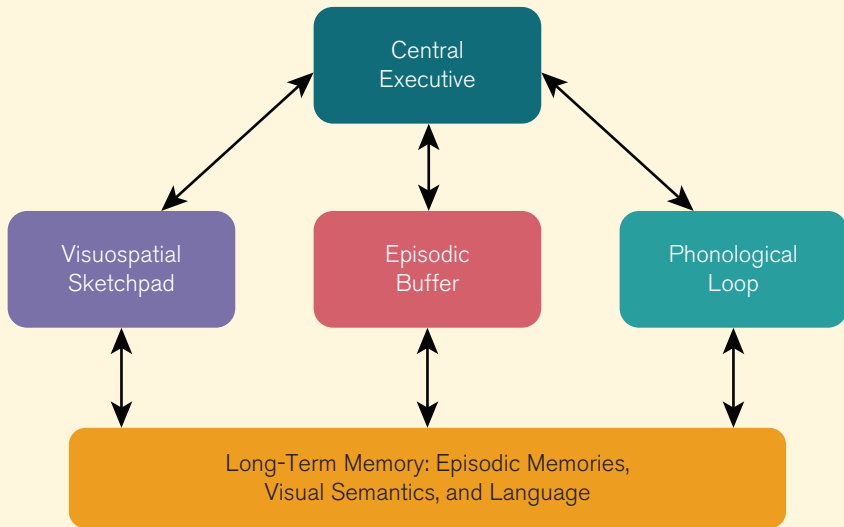


RNH

GRX	FPG	HMK	NZL	PLJ
RBQ	YTB	JSZ	CKP	WFD

In proactive interference, old information keeps new information from being properly stored in STM

Figure 5.6 Baddeley's (2000) Working-Memory Model



The model involves units for processing visuospatial information (visuospatial sketchpad) and auditory information (phonological loop). The central executive coordinates these units and controls the focus of attention. The episodic buffer holds episodic memories for a brief time to allow them to transfer between the working- and long-term memory systems.

Figure 5.7 Results of the Quinn and McConnell (1996) Study

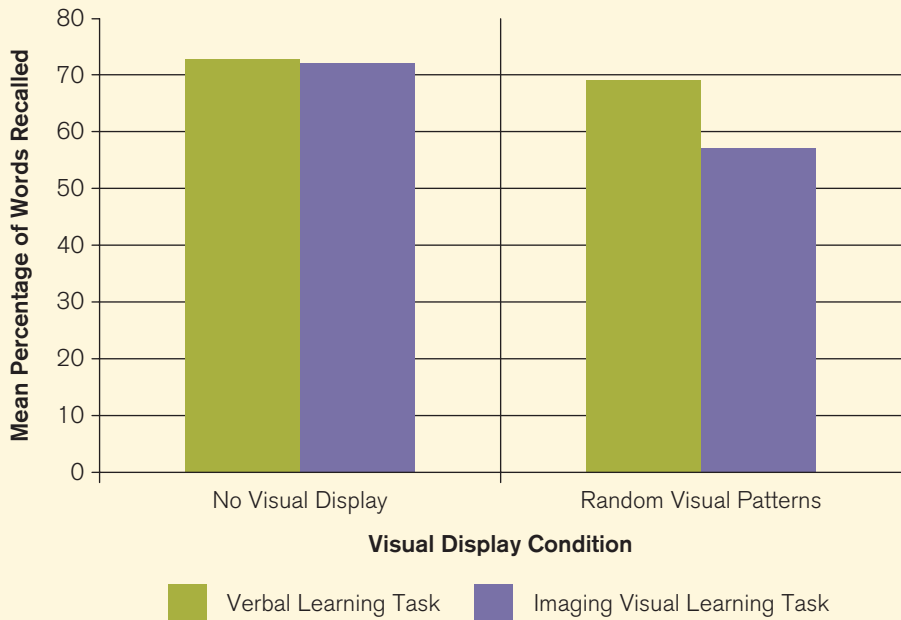
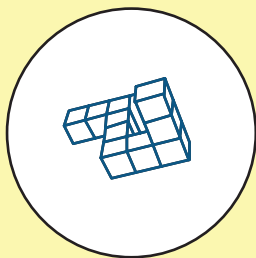
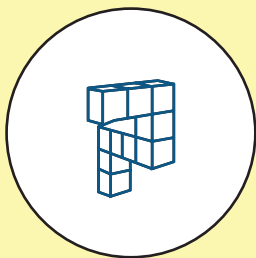
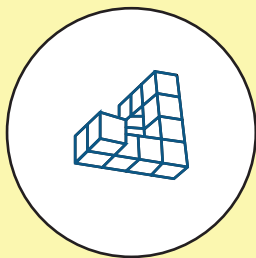
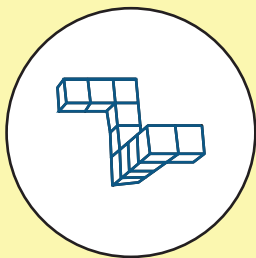


Figure 5.8 Objects Used in the Shepard and Metzler (1971) Mental Rotation Study

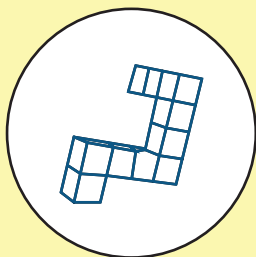
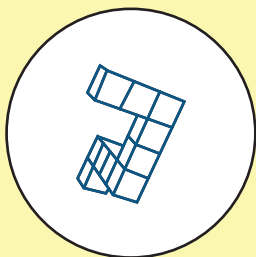
A



B



C



SOURCE: Figure 1, Shepard, R. N., & Metzler, J. (1971). Mental rotation of three-dimensional objects. *Science*, 171, 701–703.

Figure

5.9

Results From Experiment 1 of Baddeley, Thompson, and Buchanan's (1975) Study for List Length of Five Items

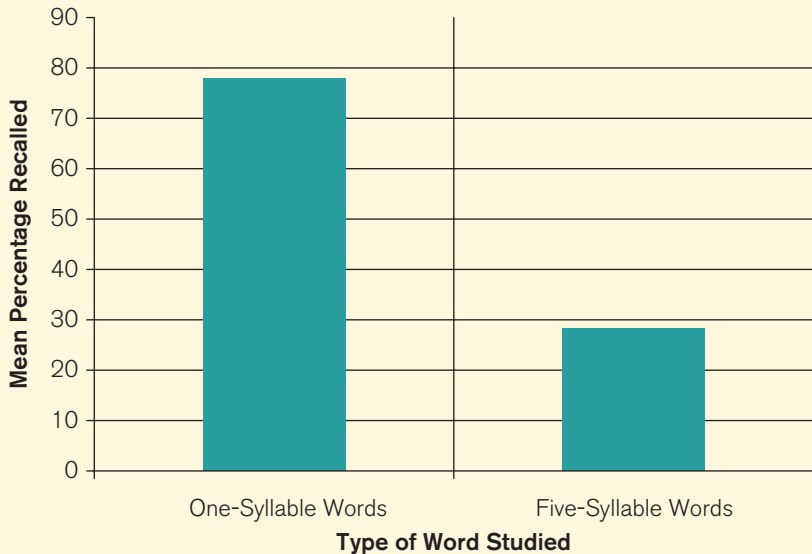
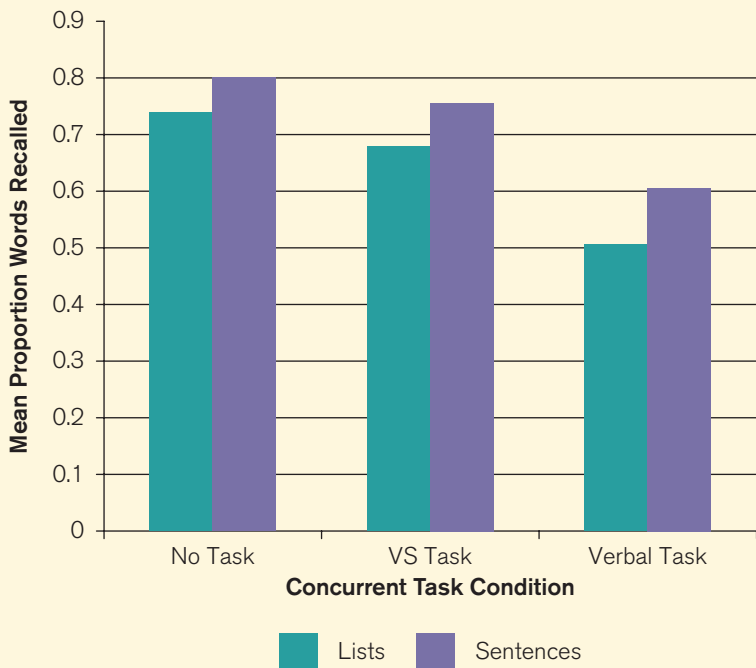
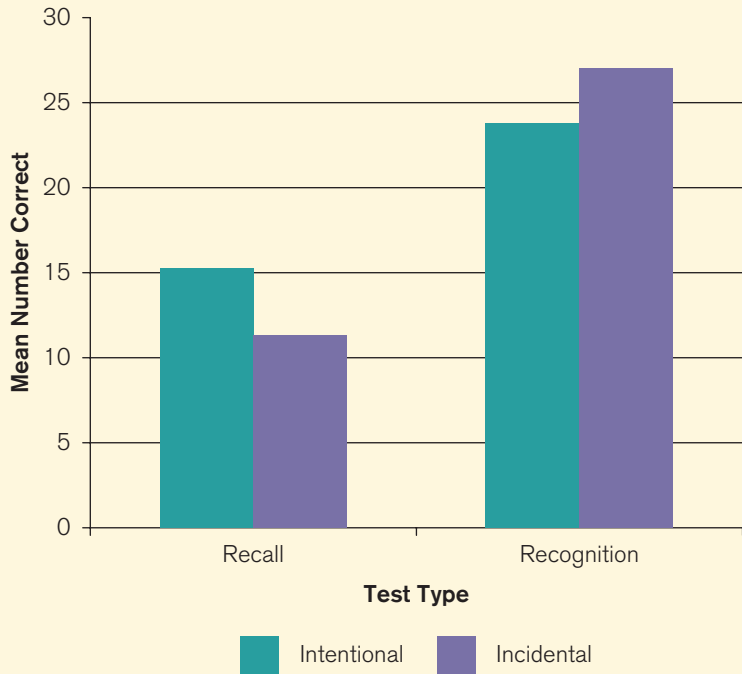


Figure 5.10 Results From Experiment 3 in Baddeley, Hitch, and Allen (2009)



Mean number of words recalled from lists and sentences is shown for three concurrent task conditions: no task (no additional task was completed during word presentation), VS task (a visuospatial task was completed during word presentation), and verbal task (a verbal task was completed during word presentation). The sentence recall advantage is present regardless of concurrent task condition.

Figure 5.11 Results From Eagle and Leiter's (1964) Study



Figure

5.12

Key Press Performance in the Categorization Task for Scullin and McDaniel's (2010) Study

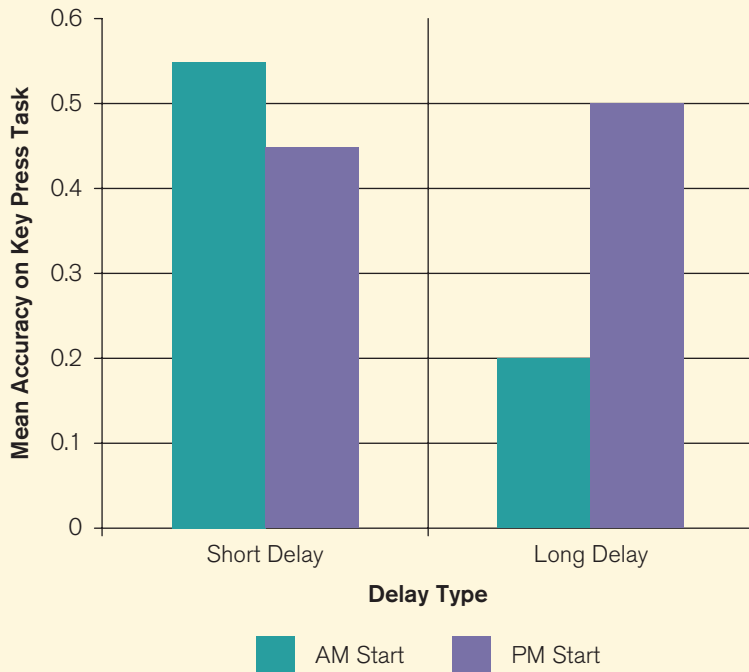




Photo 5.2 The working-memory system controls our memories over the short term and our current focus of attention to allow us to perform complex tasks.