

Lexical Processing fMRI Protocol

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Run 1a

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Cup list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Gun list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Rough list	List 9
91--100	361--370	"+"	fixation

Run 1a Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
rights	rigid	bog	mug	run	newt	pack	dislike	smooth
attorney	difficult	hog	saucer	son	brute	track	love	bumpy
enforce	easy	fog	tea	ton	cute	sack	hostility	road
criminal	work	log	measuring	done	boot	crack	anger	tough
lawyer	cement	smog	coaster	sun	root	back	detest	sandpaper
court	concrete	clog	lid	spun	tribute	stack	resent	jagged
government	stiff	frog	handle	bun	lute	snack	fear	ready
regulation	tough	eggnog	coffee	fortune	flute	slack	jealousy	coarse
legal	rock	hedgehog	straw	felon	shoot	plaque	envy	uneven
officer	simple	prologue	goblet	fun	suit	tack	despise	riders
rules	complex	hotdog	soup	carton	salute	shack	abhor	rugged
justice	firm	Prague	stein	nun	dispute	fullback	war	sand
legislation	solid	flog	drink	won	compute	shellac	enemy	boards
amendment	soft	grog	plastic	arson	commute	jack	loathe	ground
police	sturdy	nog	sip	none	pursuit	hack	disgust	gravel
order	coarse	cog	glass	dungeon	acute	lack	like	beard

Run 1b

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning"	Cue
7--10	8--40	Fat list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme"	Cue
17--20	48--80	Chair list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme"	Cue
27--30	88--120	Mail List	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Wish List	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Cold List	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Snake List	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Ball List	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Sweet List	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Smell List	List 9
91--100	361--370	"+"	fixation

Run 1b Lists

10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
thin	air	stale	fish	hot	viper	call	beat	yell
obese	flair	fail	dish	snow	lizard	crawl	neat	fell
large	stair	quail	publish	warm	slither	stall	heat	well
weight	where	trail	establish	winter	serpent	small	seat	shell
calorie	hair	snail	swish	ice	deadly	wall	treat	spell
slim	swear	wail	Irish	popsicle	hiss	fall	sleet	cell
pudgy	their	cocktail	banish	frigid	reptile	doll	eat	bell
diet	bear	exhale	blemish	chilly	cobra	gall	greet	gel
slender	square	detail	fetish	heat	fangs	menthol	street	pastel
wide	scare	sail	rubbish	weather	poison	appall	feet	hell
cheek	prayer	scale	squish	freeze	venom	mall	sheet	sell
skinny	fair	nail	varnish	air	slimy	hall	pleat	tell
lean	hardware	frail	anguish	shiver	bite	squall	athlete	swell
plump	welfare	rail	ticklish	Arctic	python	all	defeat	dwell
chubby	nightmare	braille	furnish	frost	worm	drywall	fleet	gazelle
huge	pair	grail	flourish	windy	rattle	tall	meet	hotel

Run 2a

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Sick list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Smoke list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Flag list	List 9
91--100	361--370	"+"	fixation

Run 2a Lists

1	2	3	4	5	6	7	8	9
Hand	Bread	Right	Sick	Smoke	Beer	Test	Top	Flag
glove	dread	correct	healthy	cigarette	jeer	pest	pop	banner
finger	head	perfect	ill	puff	fear	best	cop	American
shake	bed	equal	flu	blaze	spear	contest	slop	symbol
palm	thread	accurate	nausea	billows	near	stressed	hop	stars
thumb	shed	fair	cancer	pollution	here	suggest	drop	anthem
wave	shred	justify	cough	ashes	steer	midwest	crop	stripes
grip	wed	left	virus	cigar	deer	digest	mop	pole
foot	said	turn	disease	chimney	sincere	nest	stop	wave
fist	spread	angle	medicine	fire	revere	quest	flop	raised
mitten	lead	answer	doctor	tobacco	adhere	crest	workshop	national
wash	dead	mistake	fever	stink	sphere	vest	dewdrop	checkered
hold	sped	wrong	hospital	pipe	appear	processed	bellhop	emblem
knuckle	fled	truth	germ	lungs	premier	expressed	eavesdrop	sign
wrist	sled	ethics	clinic	flames	ear	dressed	gumdrop	freedom
arm	fed	direction	vomit	stain	gear	arrest	chop	pendant
clap	tread	proper	well	inhale	seer	zest	prop	pledge

Run 2b

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning"	Cue
7--10	8--40	Wet list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme"	Cue
17--20	48--80	High list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning"	Cue
27--30	88--120	Car list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Trash list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Man list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Slow list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Rain list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Shirt list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Sleep list	List 9
91--100	361--370	"+"	fixation

Run 2b Lists

10	11	12	13	14	15	16	17	18
Wet	High	Car	Trash	Man	Slow	Rain	Shirt	Sleep
slippery	goodbye	truck	rash	ran	tow	umbrella	blouse	bed
damp	cry	bus	flash	ban	row	drench	sleeves	rest
paint	dye	train	bash	clan	dough	weather	pants	awake
splash	fly	automobile	cash	fan	throw	hail	tie	tired
dry	sky	vehicle	sash	tan	though	cloud	button	dream
humid	rye	drive	splash	bran	show	dew	shorts	wake
water	apply	jeep	ash	plan	snow	pour	iron	snooze
dripping	why	Ford	brash	scan	woe	storm	polo	blanket
soak	eye	race	stash	can	crow	thunder	collar	doze
moist	imply	keys	smash	van	no	wind	vest	slumber
saturate	buy	garage	crash	span	stow	puddle	pocket	snore
sponge	pie	highway	gash	pan	below	acid	jersey	nap
towel	lie	sedan	whiplash	rattan	hero	mist	belt	peace
slick	shy	van	eyelash	began	shallow	lightening	linen	yawn
soggy	try	taxi	mash	dustpan	hello	sunshine	cuffs	drowsy
douse	thigh	gas	clash	wingspan	ago	flood	cotton	pajamas

Run 3a

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Cup list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Gun list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Rough list	List 9
91--100	361--370	"+"	fixation

Run 3a Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
saw	yard	hound	pup	pistol	apple	white	weight	tough
jaw	lard	puppy	windup	shot	vegetable	dark	state	bluff
grandma	bard	bite	up	holster	orange	cat	plate	fluff
spa	guard	mutt	gallop	rifle	kiwi	charred	inflate	stuff
gnaw	card	pet	wallop	bullet	citrus	night	skate	puff
paw	marred	beware	dollop	hunt	ripe	funeral	slate	buff
awe	scarred	bone	syrup	military	pear	color	fate	handcuff
flaw	regard	tail	bishop	powder	banana	grief	gate	earmuff
slaw	charred	cat	hiccup	shoot	berry	blue	inmate	dandruff
jigsaw	bombard	animal	mixup	trigger	cherry	death	trait	enough
straw	diehard	paw	ketchup	murder	basket	ink	grate	duff
raw	junkyard	poodle	pinup	aim	juice	bottom	primate	scuff
thaw	sparred	flea	closeup	bang	salad	coal	relate	cuff
claw	jarred	bark	breakup	cannon	bowl	brown	create	scruff
draw	disbarred	Lassie	scallop	revolver	cocktail	gray	crate	snuff
squaw	lifeguard	vet	blowup	weapon	tree	tuxedo	rate	gruff

Run 3b

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme"	Cue
7--10	8--40	Fat list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning"	Cue
17--20	48--80	Chair list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning"	Cue
27--30	88--120	Mail list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Wish list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Cold list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Snake list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Ball list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Sweet list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Smell list	List 9
91--100	361--370	"+"	fixation

Run 3b Lists

10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
rat	table	stamp	want	fold	bake	bounce	sour	nose
bat	sit	deliver	dream	told	make	throw	candy	breathe
sat	legs	receive	desire	bold	take	basket	sugar	sniff
gnat	seat	bills	hope	sold	quake	bowling	bitter	aroma
brat	couch	letters	well	mold	stake	golf	good	hear
spat	desk	send	think	polled	wake	play	taste	see
that	recliner	fax	star	gold	cake	tennis	tooth	nostril
flat	sofa	express	bone	old	flake	soccer	nice	whiff
combat	wood	post	ring	strolled	rake	round	honey	scent
at	cushion	zip	wash	hold	fake	catch	soda	reek
doormat	swivel	address	thought	scold	mistake	pitch	chocolate	stench
cat	stool	envelope	get	unrolled	shake	moth	heart	fragrance
pat	sitting	package	true	twofold	forsake	bat	cake	perfume
splat	rocking	UPS	for	behold	cornflake	kick	tart	salts
slat	bench	telegram	money	billfold	ache	racket	pie	rose
hat	wicker	junk	birthday	rolled	brake	hit	dessert	odor

Run 4a

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Sick list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Smoke list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Flag list	List 9
91--100	361--370	"+"	fixation

Run 4a Lists

1	2	3	4	5	6	7	8	9
Hand	Bread	Right	Sick	Smoke	Beer	Test	Top	Flag
brand	butter	fight	pick	joke	drunk	quiz	bottom	bag
bland	food	light	kick	spoke	keg	final	peak	brag
stand	eat	white	stick	cloak	pub	study	hill	snag
sand	sandwich	sight	flick	yolk	suds	evaluate	over	zigzag
band	rye	quite	wick	stroke	liquor	experiment	roof	rag
land	jam	spite	clique	soak	booze	essay	summit	stag
and	milk	night	lick	broke	alcohol	stress	pinnacle	gag
watchband	flour	bite	slick	coke	Bud	screen	zenith	windbag
newsstand	jelly	might	quick	oak	bar	score	apex	tag
expand	dough	polite	nick	choke	bottle	exam	spin	drag
farmland	crust	plight	civic	evoke	wine	fail	above	sag
grand	slice	unite	frantic	folk	mug	lab	ceiling	sandbag
gland	wine	excite	mimic	poke	barrel	tube	tip	swag
demand	loaf	finite	brick	revoke	drink	pass	lid	nag
command	toast	flight	tick	baroque	can	grade	mountain	wag
disband	wheat	sprite	chick	stoke	cooler	analysis	best	shag

Run 4b

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme"	Cue
7--10	8--40	Wet list	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning"	Cue
17--20	48--80	High list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme"	Cue
27--30	88--120	Car list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Trash list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Man list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Slow list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Rain list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Shirt list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Sleep list	List 9
91--100	361--370	"+"	fixation

Run 4b Lists

10	11	12	13	14	15	16	17	18
Wet	High	Car	Trash	Man	Slow	Rain	Shirt	Sleep
bet	low	par	garbage	woman	fast	sane	alert	beep
net	clouds	bar	waste	husband	lethargic	main	hurt	cheap
set	up	scar	can	uncle	stop	crane	assert	weep
let	tall	star	refuse	lady	listless	retain	invert	sweep
jet	tower	far	sewage	mouse	snail	stain	skirt	jeep
asset	jump	czar	bag	male	cautious	drain	dessert	sheep
met	above	jar	junk	father	delay	plain	exert	keep
yet	building	are	rubbish	strong	traffic	pain	dirt	leap
cadet	noon	tar	sweep	friend	turtle	brain	flirt	steep
brunette	cliff	char	scraps	beard	hesitant	constrain	curt	seep
threat	sky	sonar	pile	person	speed	regain	blurt	deep
sweat	over	radar	dump	handsome	quick	humane	squirt	creep
sunset	airplane	memoir	landfill	muscle	sluggish	sustain	spurt	heap
corvette	dive	bizarre	debris	suit	wait	champagne	girt	peep
fret	elevate	cigar	litter	old	molasses	maintain	quirt	reap
duet	ledge	guitar	recycle	guy	rapid	membrane	expert	bleep

Example List Run

Presented	Presentation Length
"rights"	500ms
blank	100ms
"attorney"	500ms
blank	100ms
"enforce"	500ms
blank	100ms
"criminal"	500ms
blank	100ms
"lawyer"	500ms
blank	100ms
"court"	500ms
blank	100ms
"government"	500ms
blank	100ms
"regulation"	500ms
blank	100ms
"legal"	500ms
blank	100ms
"officer"	500ms
blank	100ms
"rules"	500ms
blank	100ms
"justice"	500ms
blank	100ms
"legislation"	500ms
blank	100ms
"amendment"	500ms
blank	100ms
"police"	500ms
blank	100ms
"order"	500ms
blank	100ms
"+"	400ms

8-Run List Timing on a Dell Optiplex PC

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Obsv 1	:00.15	:00.25	:00.42	:00.52	1:08.5	1:19	1:35	1:46	2:02	2:12	2:29	2:39	2:56	3:06	3:23	3:33	3:49	4:00	4:27
Obsv 2	:00.15	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:03	2:13	2:29.29	2:40	2:56.5	3:07	3:23	3:33.5	3:50	4:00.5	4:27
Obsv 3	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:03	2:13	2:30	2:40	2:56	3:07	3:23	3:33.9	3:50	4:01	4:27.5
Obsv 4	:00.16	:00.26	:00.42	:00.53	1:09	1:20	1:36	1:46	2:03	2:13	2:29.5	2:40	2:56	3:07	3:23	3:34	3:50	4:01	4:27
Obsv 5	:00.15	:00.25.5	:00.42	:00.53	1:09	1:19.5	1:35.5	1:46	2:02.5	2:12.5	2:29	2:40	2:56	3:06	3:23	3:33.7	3:50	4:00	4:27
Obsv 6	:00.15	:00.25	:00.42	:00.53	1:09	1:19.5	1:36	1:47	2:02.5	2:13	2:29	2:40	2:56	3:07	3:23	3:33	3:50	4:00	4:26
Obsv 7	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29.7	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Obsv 8	:00.15	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29.7	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Obsv 9	:00.15	:00.25	:00.42	:00.52	1:09	1:19	1:36	1:46	2:02.5	2:13	2:29	2:40	2:56	3:06	3:23	3:33	3:50	4:00	4:27
Obsv 10	:00.15.5	:00.26	:00.42	:00.53	1:09	1:19	1:36	1:46.5	2:03	2:13	2:30	2:40	2:56	3:07	3:23	3:33	3:50	4:01	4:27
Average:	:00.15.2	:00.25.6	:00.42	:00.52.8	1:09	1:19.2	1:35.9	1:46	2:02.7	2:13	2:29.3	2:40	2:56	3:06.7	3:23	3:33	3:50	4:00.5	4:27

TR Time

Should start on TR:

7 17 27 37 47 57 67 77 87

NOTE:
 Timing is based on MS Powerpoint 2000 SR (9.0) through Windows XP on a Dell Optiplex GX300 at 1024x768 resolution
 Times are from 10 observations of Run 1a
 Timings may vary by Powerpoint version and/or operating system and/or screen resolution

8-Run List Timing on Fujitsu Laptop

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1a	16.3	29.35	45.37	58.26	1:14.56	1:27.84	1:43.4	1:56.62	2:12.62	2:25.74	2:41.77	2:54.6	3:10.84	3:23.83	3:39.93	3:53.21	4:09.21	4:22.53	4:48.77
Run 1b	16.35	29.52	45.45	58.61	1:14.54	1:27.63	1:43.69	1:56.79	2:12.69	2:25.73	2:41.76	2:55.02	3:10.79	3:23.86	3:39.76	3:53.01	4:08.83	4:22.1	4:48.29
Run 2a	16.19		45.07	57.76	1:13.19	1:26.73	1:42.42	1:55.73	2:11.35	2:24.48	2:40.23	2:53.26	3:09.01	3:22.01	3:38.01	3:51.48	4:06.86	4:19.76	4:46.23
Run 2b	16.1		45.23	58.38	1:14.54	1:27.35	1:43.35	1:56.29	2:12.79	2:26.10	2:41.79	2:55.04	3:11.07	3:24.19	3:40.35	3:53.42	4:09.42	4:22.48	4:48.45
Run 3a	16.23		45.51	58.6	1:14.35	1:27.48	1:43.45	1:56.6	2:12.57	2:25.69	2:41.69	2:55.67	3:10.76	3:23.92	3:39.92	3:53.04	4:09.30	4:22.23	4:48.63
Run 3b	16.23	29.26	45.26	58.38	1:14.45	1:27.84	1:43.34	1:56.57	2:12.63	2:25.79	2:41.86	2:55.1	3:10.86	3:24.07	3:40.04	3:53.26	4:09.17	4:22.26	4:48.63
Run 4a	16.19	29.35	45.19	58.57	1:14.26	1:27.29	1:43.07	1:56.38	2:12.32	2:25.35	2:41.42	2:54.38	3:10.45	3:23.73	3:39.57	3:53.17	4:08.73	4:22.04	4:48.45
Run 4b			45.8		1:14.89	1:27.93	1:43.93	1:57.02	2:12.93	2:25.51	2:41.93	2:55.23	3:11.08	3:24.52	3:40.14	3:53.36	4:09.08	4:22.23	4:48.61
Average:	16.22	29.37	45.36	58.36	1:14.34	1:27.51	1:43.33	1:56.5	2:12.49	2:25.55	2:41.56	2:54.79	3:10.61	3:23.77	3:39.72	3:52.99	4:08.83	4:21.95	4:48.26
TR Time																			
Should start on																			
TR:	7	17	27	37	47	57	67	77	87										

NOTE: Timing is based on MS Powerpoint 2002 (10.36) through Windows XP on a Fujitsu Lifebook at 1024 x 768 Resolution
 Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution
 Times from fMRI subject combined with Run 1a and 1b from practice runs

8-Run List Timing on Dell Inspiron Laptop

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1a	15.9	27.3	43	54.8	1:10.1	1:21.7	1:37.3	1:48.9	2:04.3	2:16	2:31.6	2:43.2	2:58.8	3:10.5	3:26	3:37.8	3:53.4	4:05.3	4:31.5
Run 1b	15.8	27.4	42.8	54.4	1:10	1:21.7	1:37	1:48.9	2:04.3	2:15.9	2:31.5	2:43	2:58.7	3:10.4	3:26	3:37.9	3:53.6	4:05.6	4:31.6
Run 2a	15.7	27.4	42.8	54.4	1:10	1:21.5	1:37.1	1:48.7	2:04.3	2:16.1	2:31.6	2:43.2	2:58.9	3:10.6	3:26.3	3:38	3:53.8	4:05.6	4:31.6
Run 2b	15.8	27.4	43	54.5	1:10	1:21.5	1:37.2	1:48.7	2:04.3	2:16.1	2:31.7	2:43.4	2:59	3:10.8	3:26.5	3:38.3	3:53.9	4:05.8	4:31.8
Run 3a	15.9	27.5	43.2	54.8	1:10.3	1:21.9	1:37.6	1:49	2:04.9	2:16.3	2:31.9	2:43.6	2:59.2	3:10.9	3:26.6	3:38.4	3:54	4:05.8	4:31.8
Run 3b	15.3	27	42.5	54.2	1:09.7	1:21.3	1:37	1:48.6	2:04	2:15.7	2:31.4	2:43	2:58.7	3:10.4	3:25.9	3:37.8	3:53.3	4:05	4:31.2
Run 4a	15.6	27.1	42.6	54.4	1:09.8	1:21.4	1:37	1:49	2:04.3	2:15.9	2:31.6	2:43.2	2:58.8	3:10.5	3:26.1	3:37.8	3:53.5	4:05.5	4:31.2
Run 4b	15.6	27.1	42.8	54.3	1:10	1:21.5	1:37.1	1:48.6	2:04.3	2:15.9	2:31.5	2:43.1	2:58.7	3:10.4	3:26.1	3:37.8	3:53.5	4:05.2	4:31.2
Average:	15.7	27.3	42.9	54.5	1:10	1:21.6	1:37.2	1:48.8	2:04.3	2:16	2:31.6	2:43.2	2:58.9	3:10.6	3:26.2	3:38	3:53.6	4:05.5	4:31.5

TR Time

Should start on TR:

7 17 27 37 47 57 67 77 87

NOTE: Timing is based on MS Powerpoint 2002 (10.35) SP-1 through Windows XP on a Dell Inspiron 8200 at 1024 x 768 Resolution
 Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

4-Run Setup Run 1

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Cup list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Gun list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Rough list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Meaning"	Cue
97--100	368--400	Fat list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Rhyme"	Cue
107--110	408--440	Chair list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Rhyme"	Cue
117--120	448--480	Mail List	List 12
121--125	481--485	"+"	fixation
126	486--487	"Rhyme"	Cue
127--130	488--520	Wish List	List 13
131--135	521--525	"+"	fixation
136	526--527	"Meaning"	Cue
137--140	528--560	Cold List	List 14
141--145	561--565	"+"	fixation
146	566--567	"Meaning"	Cue
147--150	568--600	Snake List	List 15
151--155	601--605	"+"	fixation
156	606--607	"Rhyme"	Cue
157--160	608-640	Ball List	List 16
161--165	641--645	"+"	fixation
166	646--647	"Rhyme"	Cue
167--170	648-680	Sweet List	List 17
171--175	681--685	"+"	fixation
176	686--687	"Rhyme"	Cue
177--180	688--720	Smell List	List 18
181--190	721--730	"+"	fixation

Run 1 Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
rights	rigid	bog	mug	run	newt	pack	dislike	smooth
attorney	difficult	hog	saucer	son	brute	track	love	bumpy
enforce	easy	fog	tea	ton	cute	sack	hostility	road
criminal	work	log	measuring	done	boot	crack	anger	tough
lawyer	cement	smog	coaster	sun	root	back	detest	sandpaper
court	concrete	clog	lid	spun	tribute	stack	resent	jagged
government	stiff	frog	handle	bun	lute	snack	fear	ready
regulation	tough	eggnog	coffee	fortune	flute	slack	jealousy	coarse
legal	rock	hedgehog	straw	felon	shoot	plaque	envy	uneven
officer	simple	prologue	goblet	fun	suit	tack	despise	riders
rules	complex	hotdog	soup	carton	salute	shack	abhor	rugged
justice	firm	Prague	stein	nun	dispute	fullback	war	sand
legislation	solid	flog	drink	won	compute	shellac	enemy	boards
amendment	soft	grog	plastic	arson	commute	jack	loathe	ground
police	sturdy	nog	sip	none	pursuit	hack	disgust	gravel
order	coarse	cog	glass	dungeon	acute	lack	like	beard
10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
thin	air	stale	fish	hot	viper	call	beat	yell
obese	flair	fail	dish	snow	lizard	crawl	neat	fell
large	stair	quail	publish	warm	slither	stall	heat	well
weight	where	trail	establish	winter	serpent	small	seat	shell
calorie	hair	snail	swish	ice	deadly	wall	treat	spell
slim	swear	wail	Irish	popscicle	hiss	fall	sleet	cell
pudgy	their	cocktail	banish	frigid	reptile	doll	eat	bell
diet	bear	exhale	blemish	chilly	cobra	gall	greet	gel
slender	square	detail	fetish	heat	fangs	menthol	street	pastel
wide	scare	sail	rubbish	weather	poison	appall	feet	hell
cheek	prayer	scale	squish	freeze	venom	mall	sheet	sell
skinny	fair	nail	varnish	air	slimy	hall	pleat	tell
lean	hardware	frail	anguish	shiver	bite	squall	athlete	swell
plump	welfare	rail	ticklish	Arctic	python	all	defeat	dwell
chubby	nightmare	braille	furnish	frost	worm	drywall	fleet	gazelle
huge	pair	grail	flourish	windy	rattle	tall	meet	hotel

4-Run Setup Run 2

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Meaning" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Meaning"	Cue
37--40	128--160	Sick list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Smoke list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Rhyme"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Rhyme"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Meaning"	Cue
87--90	328--360	Flag list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Meaning"	Cue
97--100	368--400	Wet list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Rhyme"	Cue
107--110	408--440	High list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Meaning"	Cue
117--120	448--480	Car list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Rhyme"	Cue
127--130	488--520	Trash list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Rhyme"	Cue
137--140	528--560	Man list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Rhyme"	Cue
147--150	568--600	Slow list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Meaning"	Cue
157--160	608-640	Rain list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Meaning"	Cue
167--170	648-680	Shirt list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Meaning"	Cue
177--180	688--720	Sleep list	List 18
181--190	721--730	"+"	fixation

Run2 Lists

1	2	3	4	5	6	7	8	9
Hand	Bread	Right	Sick	Smoke	Beer	Test	Top	Flag
glove	dread	correct	healthy	cigarette	jeer	pest	pop	banner
finger	head	perfect	ill	puff	fear	best	cop	American
shake	bed	equal	flu	blaze	spear	contest	slop	symbol
palm	thread	accurate	nausea	billows	near	stressed	hop	stars
thumb	shed	fair	cancer	pollution	here	suggest	drop	anthem
wave	shred	justify	cough	ashes	steer	midwest	crop	stripes
grip	wed	left	virus	cigar	deer	digest	mop	pole
foot	said	turn	disease	chimney	sincere	nest	stop	wave
fist	spread	angle	medicine	fire	revere	quest	flop	raised
mitten	lead	answer	doctor	tobacco	adhere	crest	workshop	national
wash	dead	mistake	fever	stink	sphere	vest	workdrop	checkered
hold	sped	wrong	hospital	pipe	appear	processed	bellhop	emblem
knuckle	fled	truth	germ	lungs	premier	expressed	eavesdrop	sign
wrist	sled	ethics	clinic	flames	ear	dressed	gumdrop	freedom
arm	fed	direction	vomit	stain	gear	arrest	chop	pendant
clap	tread	proper	well	inhale	seer	zest	prop	pledge
10	11	12	13	14	15	16	17	18
Wet	High	Car	Trash	Man	Slow	Rain	Shirt	Sleep
slippery	goodbye	truck	rash	ran	tow	umbrella	blouse	bed
damp	cry	bus	flash	ban	row	drench	sleeves	rest
paint	dye	train	bash	clan	dough	weather	pants	awake
splash	fly	automobile	cash	fan	throw	hail	tie	tired
dry	sky	vehicle	sash	tan	though	cloud	button	dream
humid	rye	drive	splash	bran	show	dew	shorts	wake
water	apply	jeep	ash	plan	snow	pour	iron	snooze
dripping	why	Ford	brash	scan	woe	storm	polo	blanket
soak	eye	race	stash	can	crow	thunder	collar	doze
moist	imply	keys	smash	van	no	wind	vest	slumber
saturate	buy	garage	crash	span	stow	puddle	pocket	snore
sponge	pie	highway	gash	pan	below	acid	jersey	nap
towel	lie	sedan	whiplash	rattan	hero	mist	belt	peace
slick	shy	van	eyelash	began	shallow	lightening	linen	yawn
soggy	try	taxi	mash	dustpan	hello	sunshine	cuffs	drowsy
douse	thigh	gas	clash	wingspan	ago	flood	cotton	pajamas

4-Run Setup Run 3

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Law list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Rhyme" for 2s then blank for 0.5s	Cue
17--20	48--80	Hard list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Meaning" for 2s then blank for 0.5s	Cue
27--30	88--120	Dog list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Cup list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Meaning"	Cue
47--50	168-200	Gun list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Fruit list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Black list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Rhyme"	Cue
77--80	288--320	Hate list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Rough list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Rhyme"	Cue
97--100	368--400	Fat list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Meaning"	Cue
107--110	408--440	Chair list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Meaning"	Cue
117--120	448--480	Mail list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Meaning"	Cue
127--130	488--520	Wish list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Rhyme"	Cue
137--140	528--560	Cold list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Rhyme"	Cue
147--150	568--600	Snake list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Meaning"	Cue
157--160	608-640	Ball list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Meaning"	Cue
167--170	648-680	Sweet list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Meaning"	Cue
177--180	688--720	Smell list	List 18
181--190	721--730	"+"	fixation

Run 3 Lists

1	2	3	4	5	6	7	8	9
Law	Hard	Dog	Cup	Gun	Fruit	Black	Hate	Rough
saw	yard	hound	pup	pistol	apple	white	weight	tough
jaw	lard	puppy	windup	shot	vegetable	dark	state	bluff
grandma	bard	bite	up	holster	orange	cat	plate	fluff
spa	guard	mutt	gallop	rifle	kiwi	charred	inflate	stuff
gnaw	card	pet	wallop	bullet	citrus	night	skate	puff
paw	marred	beware	dollop	hunt	ripe	funeral	slate	buff
awe	scarred	bone	syrup	military	pear	color	fate	handcuff
flaw	regard	tail	bishop	powder	banana	grief	gate	earmuff
slaw	charred	cat	hiccup	shoot	berry	blue	inmate	dandruff
jigsaw	bombard	animal	mixup	trigger	cherry	death	trait	enough
straw	diehard	paw	ketchup	murder	basket	ink	grate	duff
raw	junkyard	poodle	pinup	aim	juice	bottom	primate	scuff
thaw	sparred	flea	closeup	bang	salad	coal	relate	cuff
claw	jarred	bark	breakup	cannon	bowl	brown	create	scruff
draw	disbarred	Lassie	scallop	revolver	cocktail	gray	crate	snuff
squaw	lifeguard	vet	blowup	weapon	tree	tuxedo	rate	gruff
10	11	12	13	14	15	16	17	18
Fat	Chair	Mail	Wish	Cold	Snake	Ball	Sweet	Smell
rat	table	stamp	want	fold	bake	bounce	sour	nose
bat	sit	deliver	dream	told	make	throw	candy	breathe
sat	legs	receive	desire	bold	take	basket	sugar	sniff
gnat	seat	bills	hope	sold	quake	bowling	bitter	aroma
brat	couch	letters	well	mold	stake	golf	good	hear
spat	desk	send	think	polled	wake	play	taste	see
that	recliner	fax	star	gold	cake	tennis	tooth	nostril
flat	sofa	express	bone	old	flake	soccer	nice	whiff
combat	wood	post	ring	strolled	rake	round	honey	scent
at	cushion	zip	wash	hold	fake	catch	soda	reek
doormat	swivel	address	thought	scold	mistake	pitch	chocolate	stench
cat	stool	envelope	get	unrolled	shake	moth	heart	fragrance
pat	sitting	package	true	twofold	forsake	bat	cake	perfume
splat	rocking	UPS	for	behold	cornflake	kick	tart	salts
slat	bench	telegram	money	billfold	ache	racket	pie	rose
hat	wicker	junk	birthday	rolled	brake	hit	dessert	odor

4-Run Setup Run 4

TR	Slide #	Slide Content	Presentation Type
1--5	1--5	"+"	fixation
6	6--7	"Rhyme" for 2s then blank for 0.5s	Cue
7--10	8--40	Hand list(0.5s word + 100ms blank & + at end for 400ms)	List 1
11--15	41--45	"+"	fixation
16	46--47	"Meaning" for 2s then blank for 0.5s	Cue
17--20	48--80	Bread list	List 2
21--25	81--85	"+"	fixation
26	86--87	"Rhyme" for 2s then blank for 0.5s	Cue
27--30	88--120	Right list	List 3
31--35	121--125	"+"	fixation
36	126--127	"Rhyme"	Cue
37--40	128--160	Sick list	List 4
41--45	161-165	"+"	fixation
46	166--167	"Rhyme"	Cue
47--50	168-200	Smoke list	List 5
51--55	201-205	"+"	fixation
56	206--207	"Meaning"	Cue
57--60	208--240	Beer list	List 6
61--65	241--245	"+"	fixation
66	246--247	"Meaning"	Cue
67--70	248--280	Test list	List 7
71--75	281--285	"+"	fixation
76	286--287	"Meaning"	Cue
77--80	288--320	Top list	List 8
81--85	321--325	"+"	fixation
86	326--327	"Rhyme"	Cue
87--90	328--360	Flag list	List 9
91--95	361--365	"+"	fixation
96	366--367	"Rhyme"	Cue
97--100	368--400	Wet list	List 10
101--105	401--405	"+"	fixation
106	406--407	"Meaning"	Cue
107--110	408--440	High list	List 11
111--115	441--445	"+"	fixation
116	446--447	"Rhyme"	Cue
117--120	448--480	Car list	List 12
121--125	481--485	"+"	fixation
126	486--487	"Meaning"	Cue
127--130	488--520	Trash list	List 13
131--135	521--525	"+"	fixation
136	526--527	"Meaning"	Cue
137--140	528--560	Man list	List 14
141--145	561--565	"+"	fixation
146	566--567	"Meaning"	Cue
147--150	568--600	Slow list	List 15
151--155	601--605	"+"	fixation
156	606--607	"Rhyme"	Cue
157--160	608-640	Rain list	List 16
161--165	641--645	"+"	fixation
166	646--647	"Rhyme"	Cue
167--170	648-680	Shirt list	List 17
171--175	681--685	"+"	fixation
176	686--687	"Rhyme"	Cue
177--180	688--720	Sleep list	List 18
181--190	721--730	"+"	fixation

Run 4 Lists

1	2	3	4	5	6	7	8	9
Hand	Bread	Right	Sick	Smoke	Beer	Test	Top	Flag
brand	butter	fight	pick	joke	drunk	quiz	bottom	bag
bland	food	light	kick	spoke	keg	final	peak	brag
stand	eat	white	stick	cloak	pub	study	hill	snag
sand	sandwich	sight	flick	yolk	suds	evaluate	over	zigzag
band	rye	quite	wick	stroke	liquor	experiment	roof	rag
land	jam	spite	clique	soak	booze	essay	summit	stag
and	milk	night	lick	broke	alcohol	stress	pinnacle	gag
watchband	flour	bite	slick	coke	Bud	screen	zenith	windbag
newsstand	jelly	might	quick	oak	bar	score	apex	tag
expand	dough	polite	nick	choke	bottle	exam	spin	drag
farmland	crust	plight	civic	evoke	wine	fail	above	sag
grand	slice	unite	frantic	folk	mug	lab	ceiling	sandbag
gland	wine	excite	mimic	poke	barrel	tube	tip	swag
demand	loaf	finite	brick	revoke	drink	pass	lid	nag
command	toast	flight	tick	baroque	can	grade	mountain	wag
disband	wheat	sprite	chick	stoke	cooler	analysis	best	shag
10	11	12	13	14	15	16	17	18
Wet	High	Car	Trash	Man	Slow	Rain	Shirt	Sleep
bet	low	par	garbage	woman	fast	sane	alert	beep
net	clouds	bar	waste	husband	lethargic	main	hurt	cheap
set	up	scar	can	uncle	stop	crane	assert	weep
let	tall	star	refuse	lady	listless	retain	invert	sweep
jet	tower	far	sewage	mouse	snail	stain	skirt	jeep
asset	jump	czar	bag	male	cautious	drain	dessert	sheep
met	above	jar	junk	father	delay	plain	exert	keep
yet	building	are	rubbish	strong	traffic	pain	dirt	leap
cadet	noon	tar	sweep	friend	turtle	brain	flirt	steep
brunette	cliff	char	scraps	beard	hesitant	constrain	curt	seep
threat	sky	sonar	pile	person	speed	regain	blurt	deep
sweat	over	radar	dump	handsome	quick	humane	squirt	creep
sunset	airplane	memoir	landfill	muscle	sluggish	sustain	spurt	heap
corvette	dive	bizarre	debris	suit	wait	champagne	girt	peep
fret	elevate	cigar	litter	old	molasses	maintain	quirt	reap
duet	ledge	guitar	recycle	guy	rapid	membrane	expert	bleep

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1	0:16.27	0:28.8	0:44.7	0:57.3	1:13	1:25.7	1:41.5	1:54	2:09.8	2:22.4	2:38.3	2:50.7	3:06.6	3:19.3	3:35	3:47.7	4:03.6	4:16.2	
R1 cont.	4:32	4:44.8	5:00.7	5:13.5	5:29.4	5:42.5	5:58.1	6:11.1	6:27	6:39.8	6:55.7	7:08.5	7:24.5	7:37.3	7:53.3	8:06.1	8:22	8:34.9	9:01.1
Run 2	0:16.2	0:28.8	0:44.5	0:57.1	1:12.9	1:25.5	1:41.3	1:53.9	2:09.8	2:22.3	2:38.2	2:50.7	3:06.5	3:19.1	3:34.9	3:47.5	4:03.4	4:16.4	
R2 cont.	4:32.1	4:44.9	5:00.7	5:13.6	5:29.5	5:42.4	5:58.3	6:11.3	6:26.9	6:39.9	6:55.8	7:08.7	7:24.6	7:37.4	7:53.3	8:06.2	8:22.3	8:35	9:01.4
Run 3	0:16.2	0:28.6	0:44.5	0:57.1	1:12.9	1:25.4	1:41.3	1:53.8	2:09.7	2:22.1	2:38.1	2:50.6	3:06.4	3:18.9	3:34.8	3:47.3	4:03.3	4:15.9	
R3 cont.	4:31.8	4:44.6	5:00.5	5:13.2	5:29.2	5:42	5:58.9	6:10.7	6:26.7	6:39.6	6:55.5	7:08.3	7:24.3	7:37.2	7:53	8:05.9	8:21.9	8:34.8	9:01.2
Run 4	0:16.1	0:28.6	0:44.6	0:57	1:12.8	1:25.6	1:41.2	1:53.7	2:09.5	2:22.3	2:38.1	2:50.7	3:06.3						
R4 cont.																			
Average:	0:16.2	0:28.7	0:44.6	0:57.1	1:12.9	1:25.6	1:41.3	1:53.9	2:09.7	2:22.3	2:38.2	2:50.7	3:06.5	3:19.1	3:34.9	3:47.5	4:03.4	4:16.2	9:01.2
Ave.cont.	4:32	4:44.8	5:00.6	5:13.4	5:29.4	5:42.3	5:58.4	6:11	6:26.9	6:39.8	6:55.7	7:08.5	7:24.5	7:37.3	7:53.2	8:06.1	8:22.1	8:34.9	
Correct	0:15	0:25	0:40	0:50	1:05	1:15	1:30	1:40	1:55	2:05	2:20	2:30	2:45	2:55	3:10	3:20	3:35	3:45	
Time:	4:00	4:10	4:25	4:35	4:50	5:00	5:15	5:25	5:40	5:50	6:05	6:15	6:30	6:40	6:55	7:05	7:20	7:30	7:55

NOTE: Timing is based on MS Powerpoint 2002 (10.36) through Windows XP on a Fujitsu Lifebook at 1024 x 768 Resolution
Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

4-Run List Timing

Long list timing—1 run=18 lists, ie. Run 1= Run 1a and 1b combined

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	
Run 1	0:15.5	0:27.1	0:42.7	0:54.2	1:09.8	1:21.3	1:36.9	1:48.4	2:04	2:15.6	2:31.1	2:42.6	2:58.2	3:09.8	3:25.4	3:36.9	3:52.5	4:04.1	
R1 cont.	4:19.7	4:31.3	4:46.9	4:58.6	5:14.2	5:26	5:41.6	5:53.4	6:09	6:20.9	6:36.7	6:48.7	7:04.2	7:16.1	7:31.7	7:43.6	7:59.3	8:11.2	8:37.1
Run 2	0:15.5	0:27.1	0:42.7	0:54.2	1:09.8	1:21.4	1:37	1:48.8	2:04.2	2:15.9	2:31.4	2:43.2	2:58.7	3:10.5	3:26	3:38	3:53.6	4:05.3	
R2 cont.	4:21	4:32.9	4:48.6	5:00.4	5:16.1	5:28.1	5:43.7	5:55.7	6:11.2	6:23.1	6:38.8	6:50.7	7:06.4	7:18.3	7:33.9	7:45.8	8:01.5	8:13.4	8:39.5
Run 3	0:15.5	0:27.2	0:42.7	0:54.5	1:10.1	1:21.7	1:37.3	1:48.8	2:04.3	2:15.9	2:31.6	2:43	2:58.6	3:10.2	3:25.8	3:37.3	3:52.9	4:04.5	
R3 cont.	4:20.2	4:31.7	4:47.4	4:58.9	5:14.5	5:26.2	5:41.9	5:53.6	6:09.2	6:21.1	6:36.9	6:48.7	7:04.4	7:16.3	7:32	7:43.8	7:59.5	8:11.4	8:37.4
Run 4	0:15.7	0:27.2	0:42.8	0:54.4	1:09.9	1:21.4	1:36.8	1:48.6	2:04.2	2:15.7	2:31.3	2:42.8	2:58.7	3:09.9	3:25.5	3:37	3:52.7	4:04.4	
R4 cont.	4:19.9	4:31.6	4:47.2	4:59.2	5:14.6	5:26.3	5:41.9	5:53.7	6:09.4	6:21.2	6:36.8	6:48.7	7:04.4	7:16.3	7:32	7:43.9	7:59.6	8:11.5	8:37.5
Average:	0:15.6	0:27.2	0:42.7	0:54.3	1:09.9	1:21.5	1:37	1:48.7	2:04.2	2:15.8	2:31.4	2:42.9	2:58.6	3:10.1	3:25.7	3:37.3	3:52.9	4:04.6	
Avg.cont.	4:20.2	4:31.9	4:47.5	4:69.3	5:14.9	5:26.7	5:42.3	5:54.1	6:09.7	6:21.6	6:37.3	6:49.2	7:04.9	7:16.8	7:32.4	7:44.3	7:70	8:11.9	8:37.9
Correct	0:15	0:25	0:40	0:50	1:05	1:15	1:30	1:40	1:55	2:05	2:20	2:30	2:45	2:55	3:10	3:20	3:35	3:45	
Time:	4:00	4:10	4:25	4:35	4:50	5:00	5:15	5:25	5:40	5:50	6:05	6:15	6:30	6:40	6:55	7:05	7:20	7:30	7:55

Timing is based on MS Powerpoint 2002 (10.35) SP-1 through Windows XP on a Dell Inspiron 8200 at 1024 x 768

NOTE: Resolution

Timings may vary by Powerpoint version and/or operating system and/or computer and/or screen resolution

Semantic Lists

Ball

bounce
throw
basket
bowling
golf
play
tennis
soccer
round
catch
pitch
moth
bat
kick
racket
hit

Beer

drunk
keg
pub
suds
liquor
booze
alcohol
Bud
bar
bottle
wine
mug
barrel
drink
can
cooler

Black

white
dark
cat
charred
night
funeral
color
grief
blue
death
ink
bottom
coal
brown
gray
tuxedo

Bread

butter
food
eat
sandwich
rye
jam
milk
flour
jelly
dough
crust
slice
wine
loaf
toast
wheat

Car

truck
bus
train
automobile
vehicle
drive
jeep
Ford
race
keys
garage
highway
sedan
van
taxi
gas

Chair

table
sit
legs
seat
couch
desk
recliner
sofa
wood
cushion
swivel
stool
sitting
rocking
bench
wicker

Cold

hot
snow
warm
winter
ice
popsicle
frigid
chilly
heat
weather
freeze
air
shiver
Arctic
frost
windy

Cup

mug
saucer
tea
measuring
coaster
lid
handle
coffee
straw
goblet
soup
stein
drink
plastic
sip
glass

Semantic Lists

Dog

hound
puppy
bite
mutt
pet
beware
bone
tail
cat
animal
paw
poodle
flea
bark
Lassie
vet

Fat

thin
obese
large
weight
calorie
slim
pudgy
diet
slender
wide
cheek
skinny
lean
plump
chubby
huge

Flag

banner
American
symbol
stars
anthem
stripes
pole
wave
raised
national
checkered
emblem
sign
freedom
pendant
pledge

Fruit

apple
vegetable
orange
kiwi
citrus
ripe
pear
banana
berry
cherry
basket
juice
salad
bowl
cocktail
tree

Gun

pistol
shot
holster
rifle
bullet
hunt
military
powder
shoot
trigger
murder
aim
bang
cannon
revolver
weapon

Hand

glove
finger
shake
palm
thumb
wave
grip
foot
fist
mitten
wash
hold
knuckle
wrist
arm
clap

Hard

rigid
difficult
easy
work
cement
concrete
stiff
tough
rock
simple
complex
firm
solid
soft
sturdy
coarse

Hate

dislike
love
hostility
anger
detest
resent
fear
jealousy
envy
despise
abhor
war
enemy
loathe
disgust
like

Semantic Lists

High

low
clouds
up
tall
tower
jump
above
building
noon
cliff
sky
over
airplane
dive
elevate
ledge

Law

rights
attorney
enforce
criminal
lawyer
court
government
regulation
legal
officer
rules
justice
legislation
amendment
police
order

Mail

stamp
deliver
receive
bills
letters
send
fax
express
post
zip
address
envelope
package
UPS
telegram
junk

Man

woman
husband
uncle
lady
mouse
male
father
strong
friend
beard
person
handsome
muscle
suit
old
guy

Rain

umbrella
drench
weather
hail
cloud
dew
pour
storm
thunder
wind
puddle
acid
mist
lightening
sunshine
flood

Right

correct
perfect
equal
accurate
fair
justify
left
turn
angle
answer
mistake
wrong
truth
ethics
direction
proper

Rough

smooth
bumpy
road
tough
sandpaper
jagged
ready
coarse
uneven
riders
rugged
sand
boards
ground
gravel
beard

Shirt

blouse
sleeves
pants
tie
button
shorts
iron
polo
collar
vest
pocket
jersey
belt
linen
cuffs
cotton

Semantic Lists

Sick

healthy
ill
flu
nausea
cancer
cough
virus
disease
medicine
doctor
fever
hospital
germ
clinic
vomit
well

Sleep

bed
rest
awake
tired
dream
wake
snooze
blanket
doze
slumber
snore
nap
peace
yawn
drowsy
pajamas

Slow

fast
lethargic
stop
listless
snail
cautious
delay
traffic
turtle
hesitant
speed
quick
sluggish
wait
molasses
rapid

Smell

nose
breathe
sniff
aroma
hear
see
nostril
whiff
scent
reek
stench
fragrance
perfume
salts
rose
odor

Smoke

cigarette
puff
blaze
billows
pollution
ashes
cigar
chimney
fire
tobacco
stink
pipe
lungs
flames
stain
inhale

Snake

viper
lizard
slither
serpent
deadly
hiss
reptile
cobra
fangs
poison
venom
slimy
bite
python
worm
rattle

Sweet

sour
candy
sugar
bitter
good
taste
tooth
nice
honey
soda
chocolate
heart
cake
tart
pie
dessert

Test

quiz
final
study
evaluate
experiment
essay
stress
screen
score
exam
fail
lab
tube
pass
grade
analysis

Semantic Lists

Top

bottom
peak
hill
over
roof
summit
pinnacle
zenith
apex
spin
above
ceiling
tip
lid
mountain
best

Trash

garbage
waste
can
refuse
sewage
bag
junk
rubbish
sweep
scraps
pile
dump
landfill
debris
litter
recycle

Wet

slippery
damp
paint
splash
dry
humid
water
dripping
soak
moist
saturate
sponge
towel
slick
soggy
douse

Wish

want
dream
desire
hope
well
think
star
bone
ring
wash
thought
get
true
for
money
birthday

Phonological Lists

Ball

call
crawl
stall
small
wall
fall
doll
gall
menthol
appall
mall
hall
squall
all
drywall
tall

Beer

jeer
fear
spear
near
here
steer
deer
sincere
revere
adhere
sphere
appear
premier
ear
gear
seer

Black

pack
track
sack
crack
back
stack
snack
slack
plaque
tack
shack
fullback
shellac
jack
hack
lack

Bread

dread
head
bed
thread
shed
shred
wed
said
spread
lead
dead
sped
fled
sled
fed
tread

Car

par
bar
scar
star
far
czar
jar
are
tar
char
sonar
radar
memoir
bizarre
cigar
guitar

Chair

air
flair
stair
where
hair
swear
their
bear
square
scare
prayer
fair
hardware
welfare
nightmare
pair

Cold

fold
told
bold
sold
mold
polled
gold
old
strolled
hold
scold
unrolled
twofold
behold
billfold
rolled

Cup

pup
windup
up
gallop
wallop
dollop
syrup
bishop
hiccup
mixup
ketchup
pinup
closeup
breakup
scallop
blowup

Phonological Lists

Dog

bog
hog
fog
log
smog
clog
frog
eggnog
hedgehog
prologue
hotdog
Prague
flog
grog
nog
cog

Fat

rat
bat
sat
gnat
brat
spat
that
flat
combat
at
doormat
cat
pat
splat
slat
hat

Flag

bag
brag
snag
zigzag
rag
stag
gag
windbag
tag
drag
sag
sandbag
swag
nag
wag
shag

Fruit

newt
brute
cute
boot
root
tribute
lute
flute
shoot
suit
salute
dispute
compute
commute
pursuit
acute

Gun

run
son
ton
done
sun
spun
bun
fortune
felon
fun
carton
nun
won
arson
none
dungeon

Hand

brand
bland
stand
sand
band
land
and
watchband
newsstand
expand
farmland
grand
gland
demand
command
disband

Hard

yard
lard
bard
guard
card
marred
scarred
regard
charred
bombard
diehard
junkyard
sparred
jarred
disbarred
lifeguard

Hate

weight
state
plate
inflate
skate
slate
fate
gate
inmate
trait
grate
primate
relate
create
crate
rate

Phonological Lists

High

goodbye
cry
dye
fly
sky
rye
apply
why
eye
imply
buy
pie
lie
shy
try
thigh

Law

saw
jaw
grandma
spa
gnaw
paw
awe
flaw
slaw
jigsaw
straw
raw
thaw
claw
draw
squaw

Mail

stale
fail
quail
trail
snail
wail
cocktail
exhale
detail
sail
scale
nail
frail
rail
braille
grail

Man

ran
ban
clan
fan
tan
bran
plan
scan
can
van
span
pan
rattan
began
dustpan
wingspan

Rain

sane
main
crane
retain
stain
drain
plain
pain
brain
constrain
regain
humane
sustain
champagne
maintain
membrane

Right

fight
light
white
sight
quite
spite
night
bite
might
polite
plight
unite
excite
finite
flight
sprite

Rough

tough
bluff
fluff
stuff
puff
buff
handcuff
 earmuff
dandruff
enough
duff
scuff
cuff
scruff
snuff
gruff

Shirt

alert
hurt
assert
invert
skirt
dessert
exert
dirt
flirt
curt
blurt
squirt
spurt
girt
quirt
expert

Phonological Lists

Sick

pick
kick
stick
flick
wick
clique
lick
slick
quick
nick
civic
frantic
mimic
brick
tick
chick

Sleep

beep
cheap
weep
sweep
jeep
sheep
keep
leap
steep
seep
deep
creep
heap
peep
reap
bleep

Slow

tow
row
dough
throw
though
show
snow
woe
crow
no
stow
below
hero
shallow
hello
ago

Smell

yell
fell
well
shell
spell
cell
bell
gel
pastel
hell
sell
tell
swell
dwell
gazelle
hotel

Smoke

joke
spoke
cloak
yolk
stroke
soak
broke
coke
oak
choke
evoke
folk
poke
revoke
baroque
stoke

Snake

bake
make
take
quake
stake
wake
cake
flake
rake
fake
mistake
shake
forsake
cornflake
ache
brake

Sweet

beat
neat
heat
seat
treat
sleet
eat
greet
street
feet
sheet
pleat
athlete
defeat
fleet
meet

Test

pest
best
contest
stressed
suggest
midwest
digest
nest
quest
crest
vest
processed
expressed
dressed
arrest
zest

Phonological Lists

Top	Trash	Wet	Wish
pop	rash	bet	fish
cop	flash	net	dish
slop	bash	set	publish
hop	cash	let	establish
drop	sash	jet	swish
crop	splash	asset	Irish
mop	ash	met	banish
stop	brash	yet	blemish
flop	stash	cadet	fetish
workshop	smash	brunette	rubbish
dewdrop	crash	threat	squish
bellhop	gash	sweat	varnish
eavesdrop	whiplash	sunset	anguish
gumdrop	eyelash	corvette	ticklish
chop	mash	fret	furnish
prop	clash	duet	flourish

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time	
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End		
Run 1a																				
Run 1b																				
Run 2a																				
Run 2b																				
Run 3a																				
Run 3b																				
Run 4a																				
Run 4b																				
Average																				
TR Time																				
Should start on TR:																				
NOTE:																				

	List 1		List 2		List 3		List 4		List 5		List 6		List 7		List 8		List 9		Total Time	
	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End	Begin	End		
Run 1																				
R1 cont.																				
Run 2																				
R2 cont.																				
Run 3																				
R3 cont.																				
Run 4																				
R4 cont.																				
Average:																				
Correct																				
Time:																				
NOTE:																				