

Artificial language learning workshop: Lecture 1

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Outline

What you will learn in lectures 1 & 2:

- What Artificial Language Learning (ALL) is
- Why it is used in linguists research
- How it is used in linguistics research
- The validity of the paradigm

Outline

What you will learn in lectures 1 & 2:

- Research that uses ALL to investigate grammar learning
- Research that uses ALL to investigate word learning
- Research that uses ALL to investigate reading
- Research that uses ALL to investigate language evolution

Outline

What you will learn in lectures 3 & 4:

- What it is like to take part in an ALL experiment
- How to design ALL stimuli
- How to program an ALL experiment in PsychoPy
- How to interpret the data
- Ways to design your own ALL experiment

What is artificial language learning?

Will I be learning about Valyrian, Dothraki,
Klingon, Droidspeak etc.?

<https://youtu.be/jJoAJyarvSc?t=10s>

What is artificial language learning?

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NO

What is artificial language learning?

Will I be learning how to test predictions
about the way language is learnt using
carefully designed experiments?

YES

Why use artificial language learning?

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"Guess what, Charles, Quincy spoke his first words today, and the best part is I couldn't understand a thing he said. He's going to be bilingual."

Artificial Language Learning

Why use artificial language learning?



Why use artificial language learning?



Why use artificial language learning?

ALL is best used in conjunction with other empirical methods

- Corpus analyses
- Computational modelling
 - Naturalistic recordings
- Neuropsychological measures
 - Individual differences

What is artificial language learning?

The various forms of ALL...

What is artificial language learning?

LANGUAGE MONOGRAPHS

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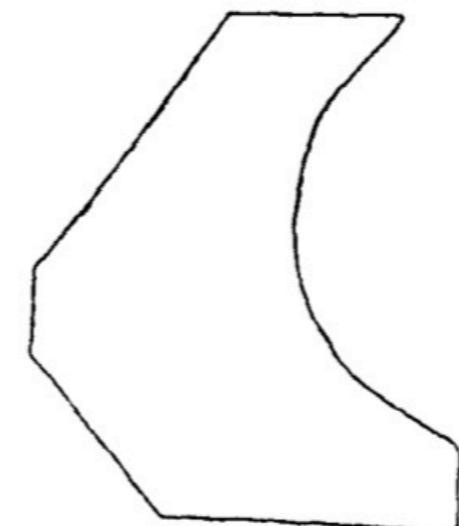
NUMBER I

NOVEMBER, 1925

**A TECHNIQUE FOR THE EXPERIMENTAL
INVESTIGATION OF ASSOCIATIVE INTERFERENCE
IN ARTIFICIAL LINGUISTIC MATERIAL**

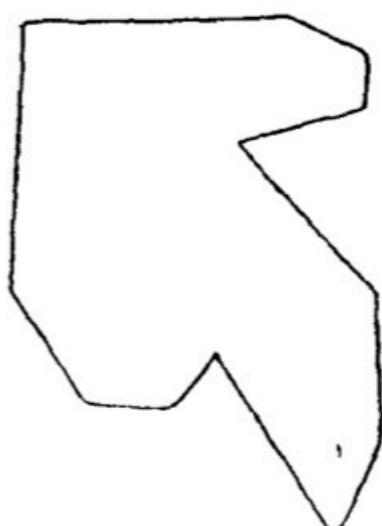
BY

ERWIN ALLEN ESPER
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No. 1.

	I	II	III
R	nasliŋ	nulgen	čelhib
G	wečliŋ	nugdet	vit
B	/ownliŋ	nuzgub	zib
Y	rojliŋ	numbow	tekbem



No. 2.

	I	II	III
R	nasčaw	doylgen	nuzgub
G	weččaw	dojgdet	kulren
B	/ownčaw	dojzgub	sotmiŋ
Y	*rojčaw	*dojmbow	*....

Esper (1925)

What is artificial language learning?

This is not an intelligence test. It is an experiment to determine how quickly you can learn the names of certain sacrificial objects in the Morgavian language, a language spoken on the northern slopes of the Himalaya Mountains. As each object is shown, I shall pronounce its name. You will immediately repeat the name after me aloud. If you are not sure of my pronunciation of any word, do not ask for a repetition, but do your best. Each time the series is repeated, try to make your pronunciation more like mine. Do not make any comments until the end of the hour, and do not set yourself any other task than looking at the objects and repeating their names after me.⁷

Esper (1925)

What is artificial language learning?

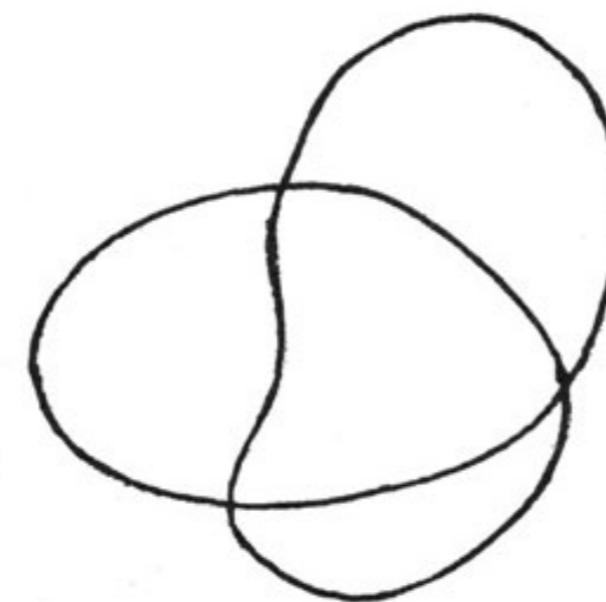


FIG. 18

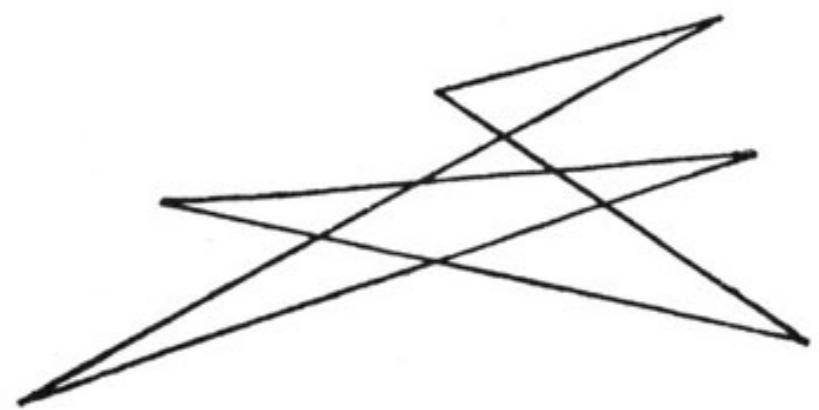
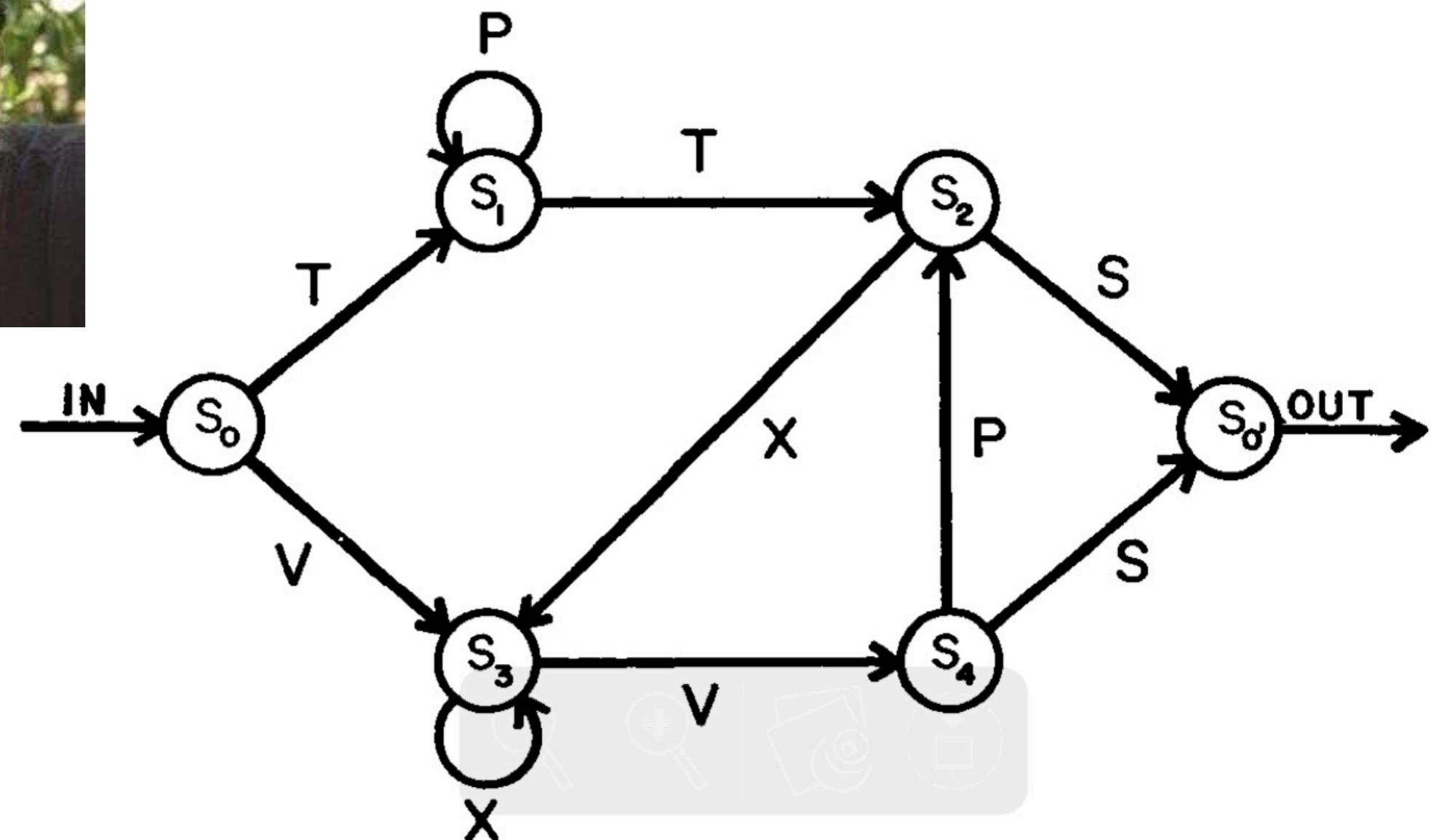
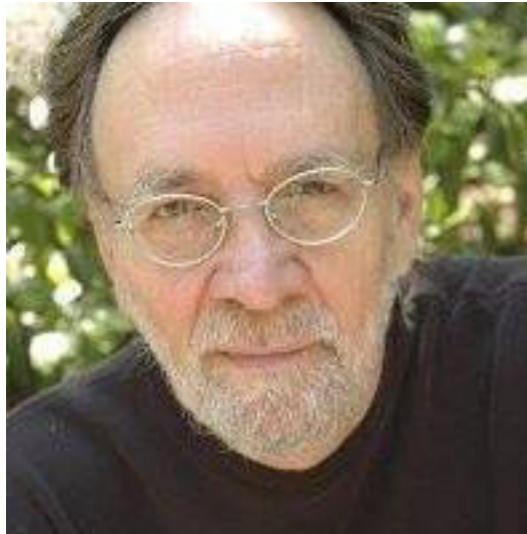


FIG. 19

Köhler (1929)

What is artificial language learning?



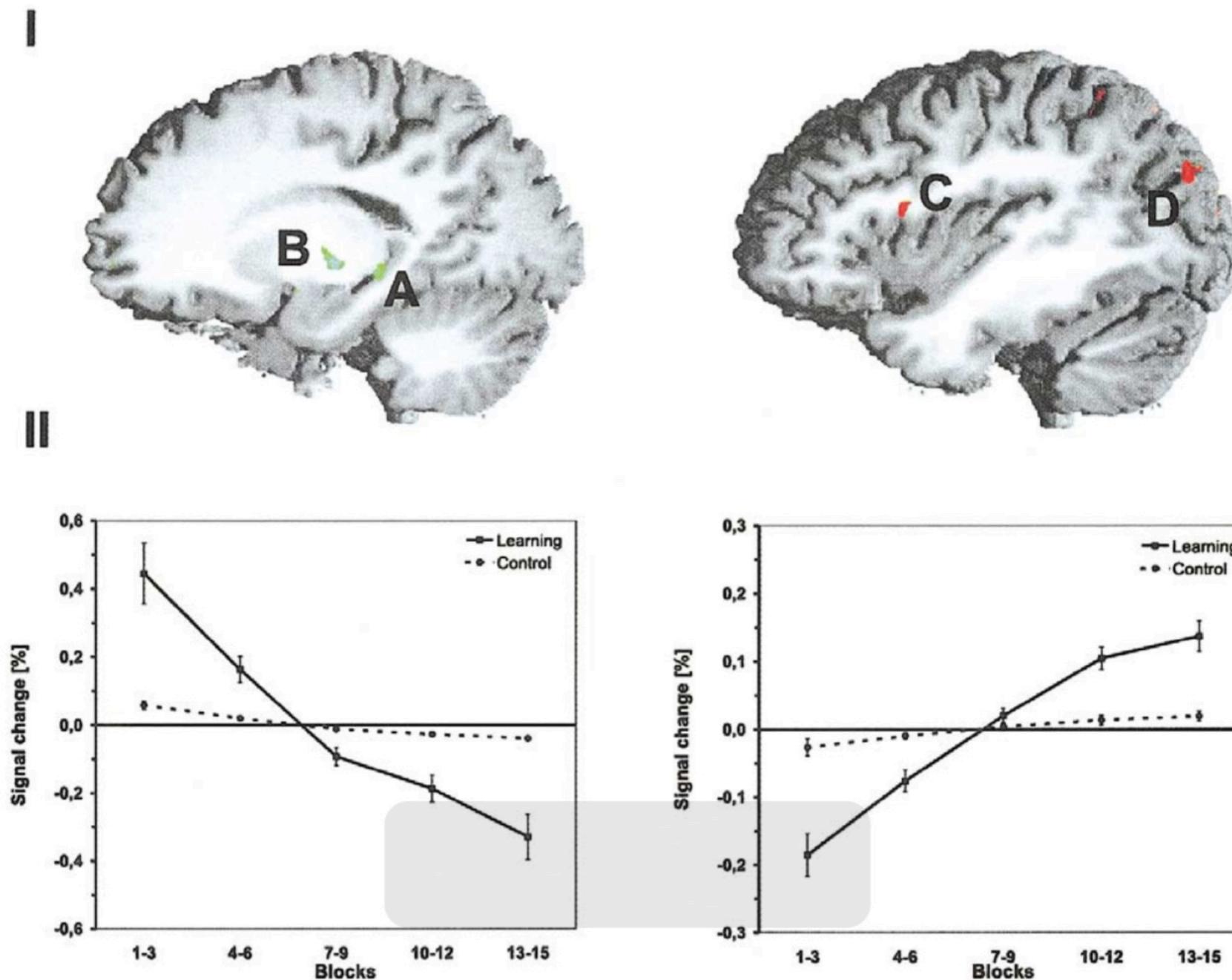
Reber (1967)

What is artificial language learning?

		1R	1G	2R	2G	3R	3G	4R	4G
S		awa	vit	wuč	numbow	sotmiŋ	pel	ʃeb	faʒa
1			numbow		vit				
6				vuwč					
7					več	sotni			
10					vawč				
16			nimbow						
18				vowč		sotki			
19						ropki			
20									vafə
21			dinbow						
22			denbow						wafə
23				vowʃ	veʃ	repki			
24	əwa								wəʃə
25						retki			
29	ɔlba		vengow			kipki			
30			venɡow						
31	elba								
33			ven̩ga			pitka			
38				vowʒ	veʒ				
44	ɛlba		ven̩ga	vowʒ	veʒ	pitka	pel	ʃeb	wəʃə

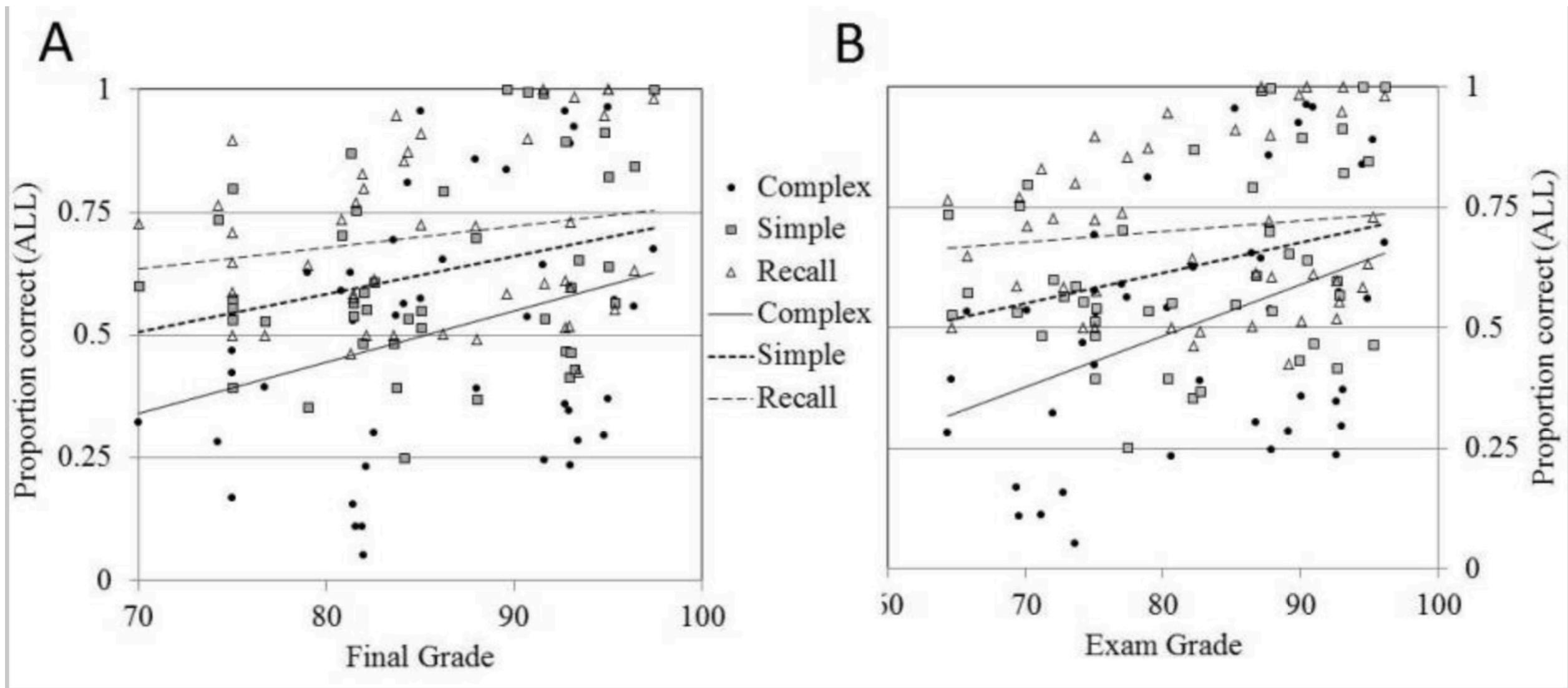
Esper (1966)

How valid are artificial language learning experiments?



Opitz & Friederici (2003)

How valid are artificial language learning experiments?



Ettlinger et al. (2016)

Important for lectures 3 & 4 (practical)

PsychoPy – to program and run an ALL experiment

<http://psychopy.org/installation.html>

Repository – to access lecture slides, experiment files, stimuli

https://github.com/jamesbrandscience/SSoL_2018