

THEORIES OF LANGUAGE ACQUISITION

Readings in Developmental Linguistics: 2020

Lecture 1

First Language Acquisition

- **Language acquisition** is the process by which humans learn to *use words* to communicate
- Grammar, which is **a set of mental rules that characterizes all of the sentences of a language**, must be mastered in order to learn a language

Stages of FLA:

- **Cooing** - 6 months - use phonemes from every language
- **Babbling** - 9 months - selectively use phonemes from their native language
- **One-word utterances** - 12 months- start using single words
- **Telegraphic speech** - 2 years- multi-word utterances that lack in function
- **Normal speech** - 5 years- almost normal developed speech”

THEORIES OF LANGUAGE ACQUISITION

1. **Behaviourist Theory** ('nurture')
2. **Innateness Theory** ('nature')
3. **Constructivism***:
 - **Cognitive** (Piaget)
 - **Socio-Cultural** / 'Interactionist' (Vygotsky)

* Both are 'Marxist' learning models

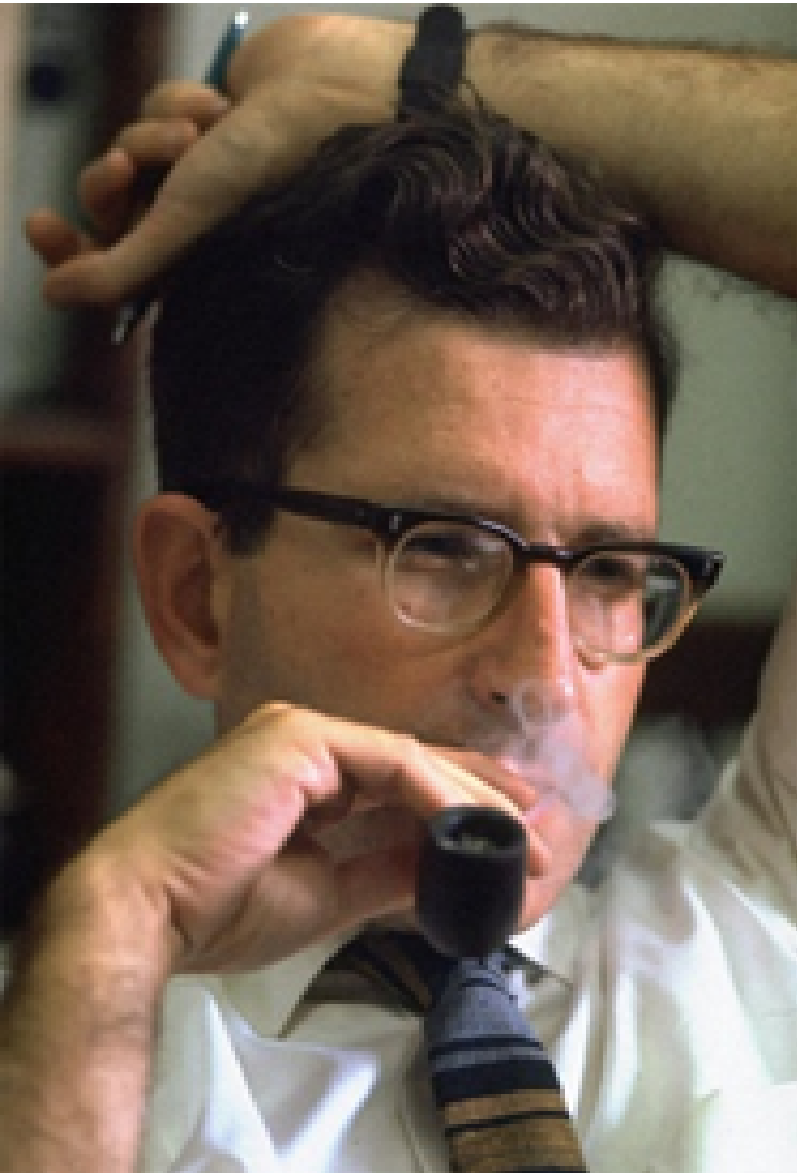
Behaviourist Theory



B.F. Skinner (1904–1990)

- **Verbal Behaviour (1957)**
 - Λ = conditioned reflexes
 - **Operational conditioning** =
rewards and punishments
for behaviour
 - **language** learning =
process of **habit** formation





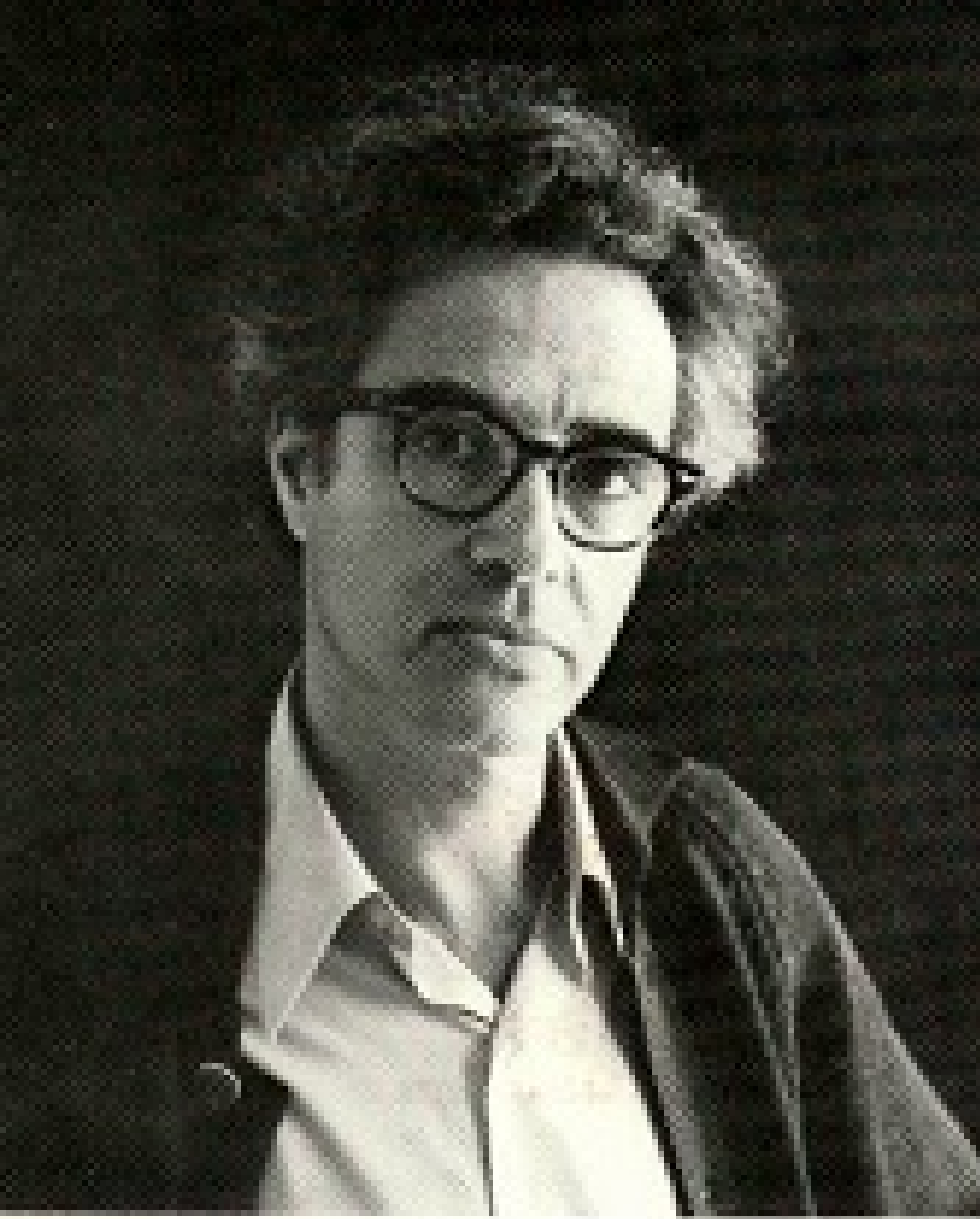
Innateness Theory

Noam Chomsky (1960)

- Λ = fundamental part of the human genome; λ is what makes humans human
- Λ acquisition = natural part of maturation
- Brain contains linguistic information at birth (**LAD**)
- All humans have inborn grammatical ideas (**UG**)

Chomsky

- **Language is innate:** we are born with a capacity for language
- **Environmental learning alone cannot account for language acquisition** (Language is too complex, with an unlimited combination of sounds, words, and phrases)
- **Generative Grammar**
 - described the syntax of a natural language is in accordance with general **Principles & specific Parameters (P&P)** (i.e. markers, switches) that are either turned on or off for particular languages.



Eric H. Lenneberg
1921-1975

Eric Lenneberg

The Capacity of Language Acquisition (1964)

- "Species typical" trait.
- Universal appearance across time for a group.
- No learning of the trait is possible.
- Individual development of a trait rigidly follows a given schedule regardless of the particular experience of the organism.

Eric Lenneberg

– 1967

– CPH

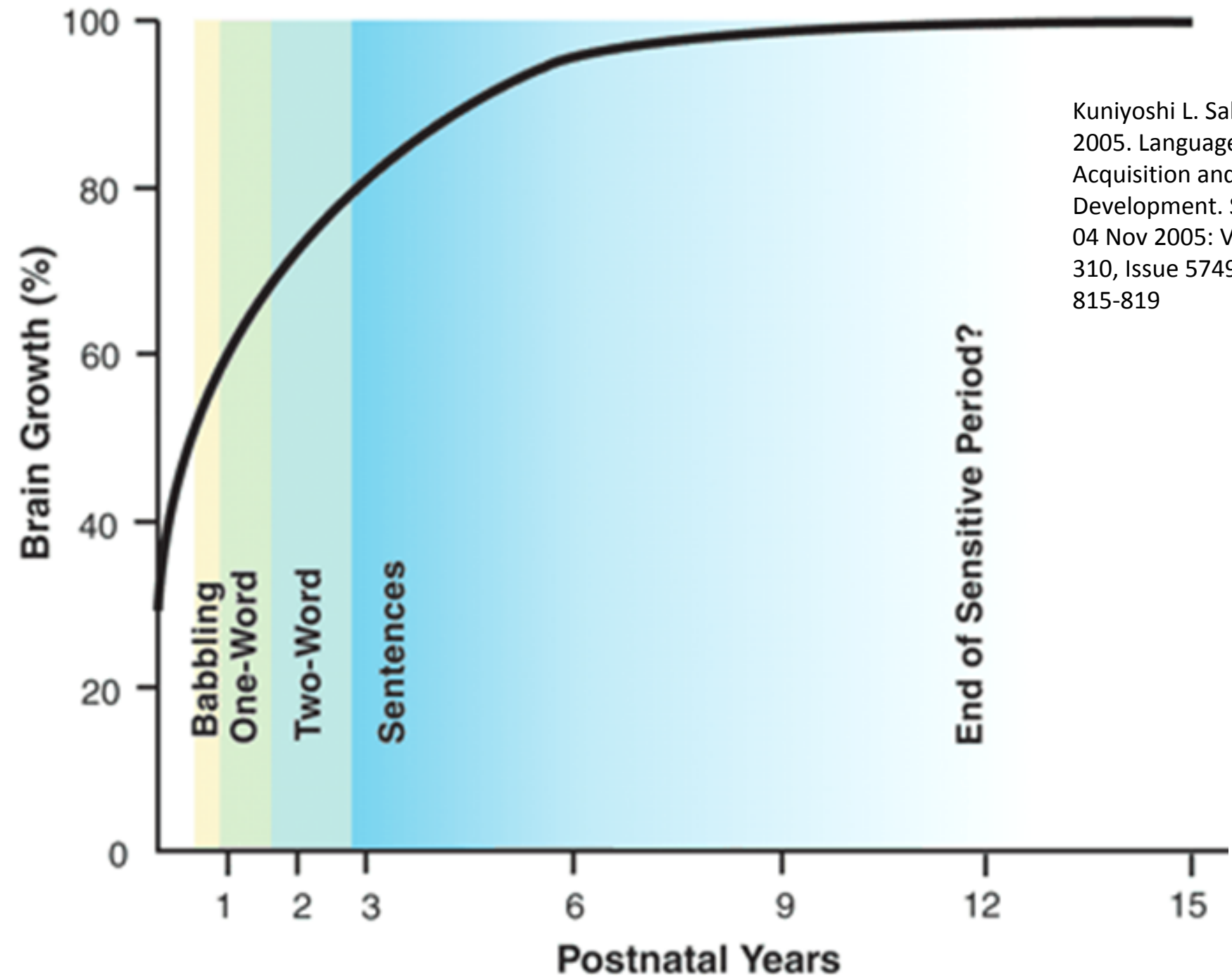
Argued against the psychological implications of Sapir-Whorf hypothesis:

- 'linguistic and non-linguistic events must be separately observed and described before they can be correlated.'

*biological
foundations
of language*

Eric H. Lenneberg

*with appendices by Noam Chomsky
and Otto Marx*



Kuniyoshi L. Sakai.
2005. Language
Acquisition and Brain
Development. Science
04 Nov 2005: Vol.
310, Issue 5749, pp.
815-819



Constructivism (Cognitive)

Jean Piaget (1896–1980)

- Children do not think like adults
- 4 (universal) stages of cognitive development

Constructivism

Socio-Cultural/ Interactionist

Lev Vygotsky (1896-1934)

- Λ – result of social interaction
- Grammar precedes logic
 - Speech structures become the basic structures of their thinking.

Verbal thought is not innate:

“a connection between word and thought originates and grows in the human mind in the course of social interaction, in many ways, shaped by society.”



The conception of word–meaning as a unit of **both generalising thought and social interchange** is of incalculable value for the study of thought and language.

Vygotsky: Language and Thought (1934)





LEV VYGOTSKY

SOCIAL-HISTORICAL THEORY OF COGNITIVE DEVELOPMENT

- **Social** and *cultural* interactions are critical to learning
- Individuals create **psychological tools** to learn and to master their behavior



BEHAVIOR Development



Biological Factors

Environmental Factors

with emphasis on **Sociocultural factors**

Mediating mechanisms

***Cultural* influences**

- Tools and signs
- Cultural artifacts
- Language

Social *Process*

Instruction (*Zone of Proximal Development*)

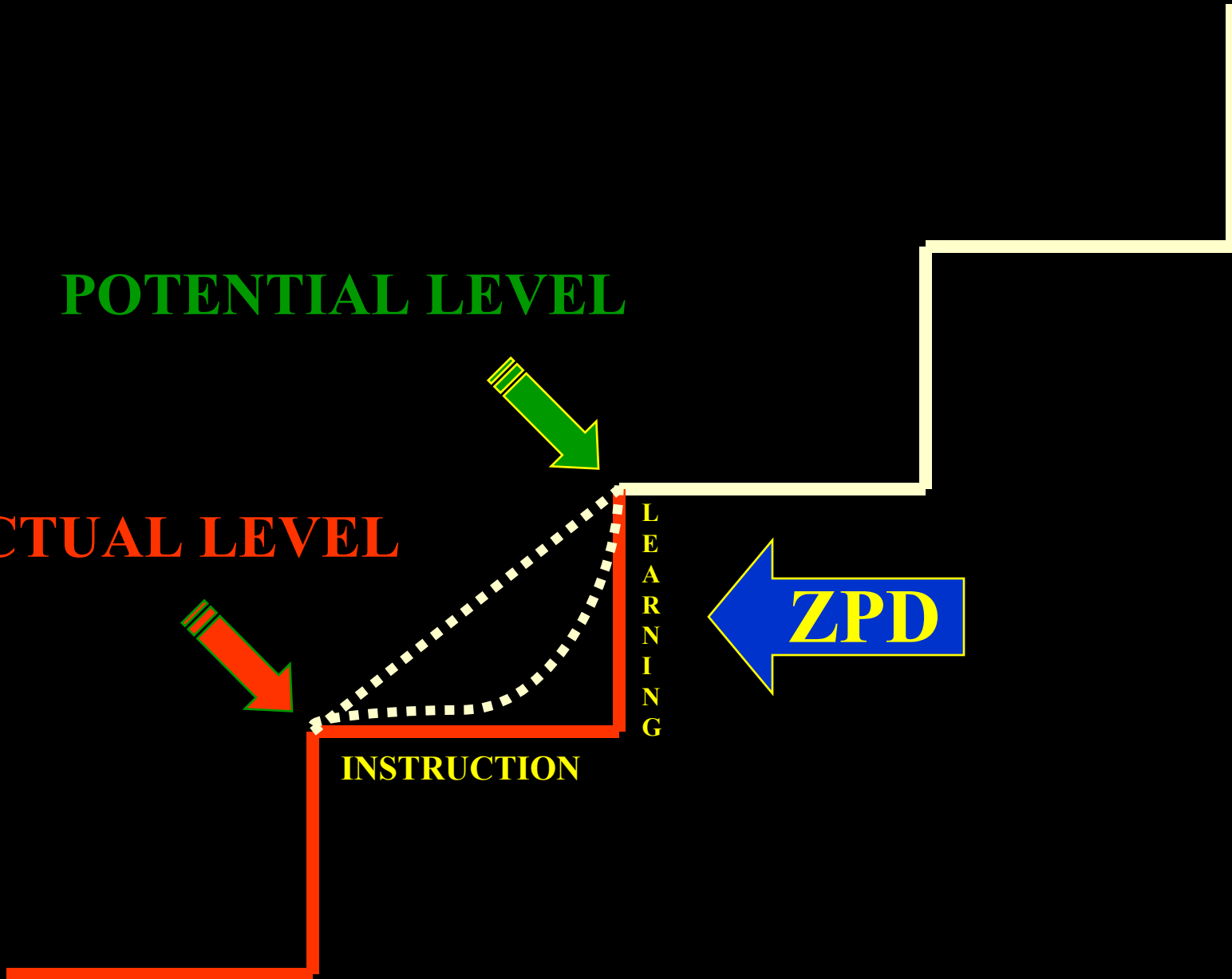
POTENTIAL LEVEL

ACTUAL LEVEL

L
E
A
R
N
I
N
G

INSTRUCTION

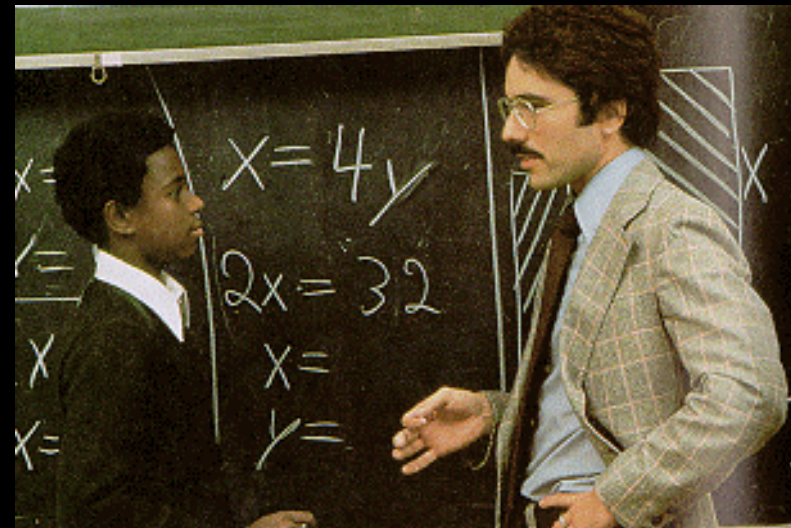
ZPD



The zone of proximal development

“ . . . is the distance between the **actual** developmental level as determined by independent problem solving and the level of **potential** development as determined through problem solving under adult guidance or in collaboration with more capable peers”

Lev Vygotsky, 1935





CONCEPTUAL DIFFERENCES

Vygotsky

vs.

Piaget



1. Cognitive development is primarily a function of:

Socio-cultural interaction
Adult-child interaction

Individual construction
Active agency





CONCEPTUAL DIFFERENCES

Vygotsky

vs

Piaget



2. ROLE OF LANGUAGE AND 'PRIVATE' SPEECH

Language critical –

egocentric speech becomes
thought that is self-regulating

Once language develops,
COGNITION *IS* LANGUAGE

Cognition critical –

egocentric speech disappears as
social speech develops

Cognition *mediates* language



CONCEPTUAL SIMILARITIES

Vygotsky

VS

Piaget



1. PARADIGMATIC CONSISTENCY

**SOCIAL
CONSTRUCTIVISM**

with a slight lean toward
nurture

**COGNITIVE
CONSTRUCTIVISM**

with a slight lean toward
nature



CONCEPTUAL SIMILARITIES

Vygotsky

VS

Piaget



2. FOUNDATION OF HUMAN DEVELOPMENT

Sociocultural mediation

Human development is an intermingling of biological and social factors –

“the natural and the cultural” –

that form a single line of sociobiological formation of personality

Genetic epistemology*

Human development is an interaction between biology & environment

primarily mediated by an individual's active **construction of meaning**

* Theory of knowledge

Piaget's Cognitive Periods & Approximate Ages

- 1. *The Sensorimotor Period*-Birth to 18-24 months**
- 2. *The Preoperational Period*-2 to 7 years**
- 3. *The Concrete Operational Period*-7 to 11 years**
- 4. *The Formal Operational Period*-over 11 years**

Piaget on Language and Thought

Period (age in years)	Characteristics	Outstanding Language Equivalent
Sensorimotor (0-2)	<ol style="list-style-type: none">1. Egocentrism2. Organization of reality by sensory and motor abilities	Language absent until final months of period
Preoperational (2-7)	<ol style="list-style-type: none">1. Increasing symbolic activity2. Beginnings of representation	<ol style="list-style-type: none">1. Egocentric speech2. Socialized speech
Concrete Operational (7-11)	<ol style="list-style-type: none">1. Reversibility2. Conservation3. Seriation4. Classification	<ol style="list-style-type: none">1. Beginnings of verbal understanding2. Understanding related to concrete objects
Formal Operational (over 11)	<ol style="list-style-type: none">1. Development of logico-mathematical structures2. Hypothetico-deductive reasoning	<ol style="list-style-type: none">1. Language freed from the concrete2. Verbal ability to express the possible

Vygotsky's Theory-Basics



- Concept of **development**
- The **social** origin of mind
- **Speech** and **development**

Vygotsky & Stages of Language Development



- **Preintellectual speech**
- **Naive psychology**
- **Egocentric speech**
- **Inner speech**

Key Differences: Piaget vs Vygotsky

	Piaget	Vygotsky
Perspective	Individual child constructs view of world by forming cognitive structures -“the little scientist”	Child’s cognitive development progresses by social interactions with others (“social origins of mind”)
Basic psychological mechanism	Equilibration-child acts to regain equilibrium between current level of cognitive structures and external stimuli	Social interaction, which encourages development through the guidance of skillful adults
Language	Emerges as cognitive structures develop	Language begins as preintellectual speech and gradually develops into a sophisticated form of inner speech; one of the main forces responsible for cognitive development
Learning	Assimilation and accommodation lead to equilibration	Learning results from the interaction of two processes; biological elementary processes (such as brain development), plus sociocultural interactions
Problem solving	Child independently searches for data needed to change cognitive structures, thus enabling child to reach solution	Two aspects of problem solving: 1. Key role of speech to guide “planful” behavior; 2. Joint efforts with others