HS 525: Cognitive, Sociocultural and Critical Foundations of the Learning Sciences

Lecture 11: September 9, 2025
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Reflection

One thing I learned last time...

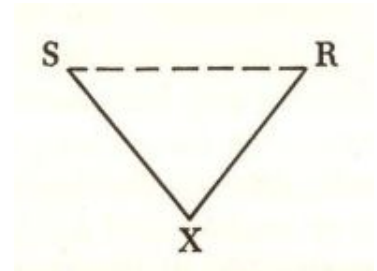1.

One thing I found challenging last time...

1. How to describe the transition towards the core identity?
2. Competence is hard to define

Sociocultural theories

Higher mental processes are mediated

- Artificial, **self-generated stimuli** called "signs" enhance memory and become the immediate cause of behaviour
- Sign as analogous to a tool, but not isomorphic in function
  - Internally vs externally oriented
  - **Mediated activity fundamentally changes all psychological operations just as tools expand the range of activities**
- Signs operate on the individual, not the environment - "reverse action"
- Helps humans "control" their behaviour from the outside
- New forms of socially and culturally-based psychological processes
  - Eg. Cards mediate the process and help regulate kids activity

Internalization of signs

- Stages of development of signs (eg. numbers, algebraic symbols)
    - External stimuli don't acquire instrumental function
    - External stimuli as a psychological instrument acting from outside
    - *Internalization of external stimuli into internal stimuli*
- Internalization
    - External activity is reconstructed and begins to occur internally
    - Interpersonal process is transformed into an intrapersonal one through a long series of developmental events
    - External and egocentric speech turn inward and become the basis for inner speech
    - Of cultural forms of behaviour -> reconstruction of psychological activity on the basis of sign operations
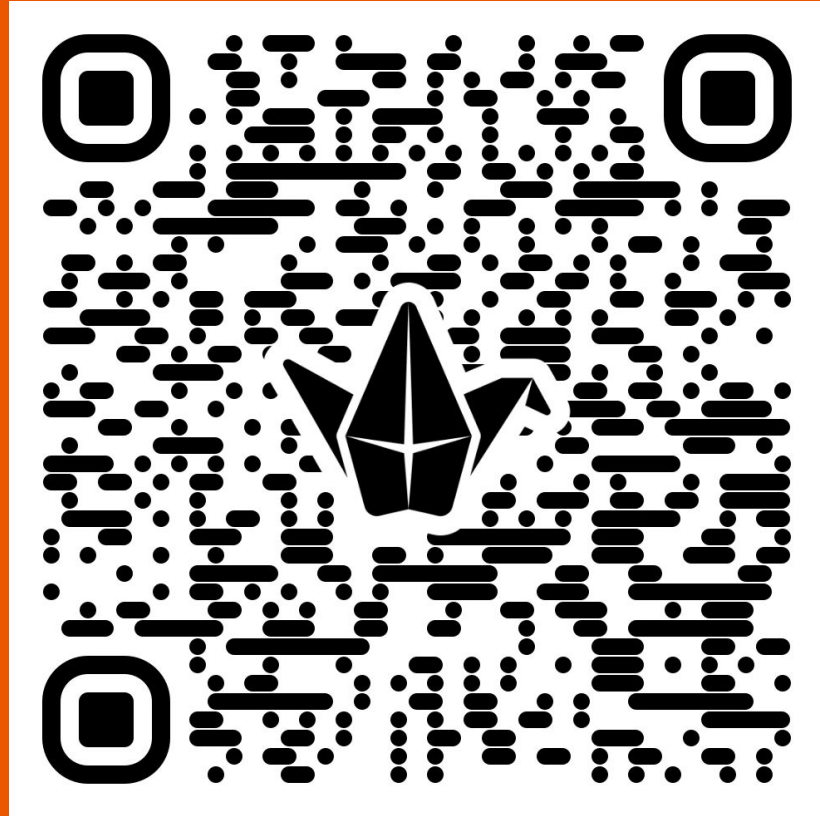
Sign-mediated activity arises developmentally

- Sign-using is neither invented nor acquired -> arise *developmentally* through a series of qualitative transformations of non-sign using activity
- *Two parallel lines* of development -> Elementary processes and higher psychological functions (sociocultural)
- Child behaviour as *interweaving* of these two lines
- From elementary behaviour to mediated forms of behaviour -> many transitional levels
  - Such as direct representation
- *Change in the interfunctional relations* between memory and other functions
  - From "to think is to recall" (concrete) to "to recall means to think" (logicalization, abstract)
  - From "something is remembered" (temporary link owing to simultaneous occurrence) to "remember something" (temporary link through artificial stimuli)
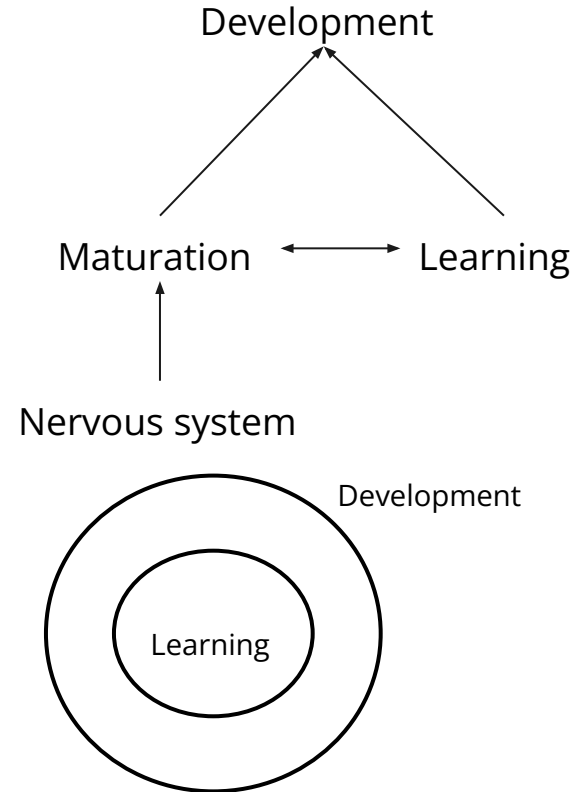
Think of a personal learning moment — anything outside or inside school or college — where you used a sign, or support from someone else to learn. It could be learning a dance move from YouTube, learning to cook from a family member, or even using a calculator in math.

1) Write a post under each section that best aligns with your example
2) Be concrete (*Duolingo hints helped me memorize grammar rules - now I just decide which word to use based on those rules*
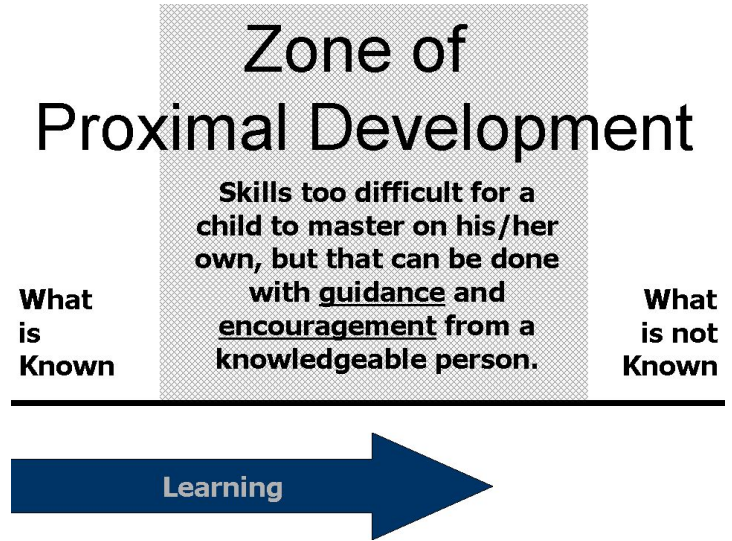
Learning and Development

- Learning is development => "Learning as organization of acquired habits of conduct and tendencies to behaviour" (conditioned reflexes)
- Development based on *maturation* and *learning* => pedagogy and transfer?
  - Learning specific skill with certain materials -> abstract structure -> Apply with new materials => Development

Development

Maturation ⟷ Learning

Nervous system

Development

Learning

Zone of Proximal Development

- **Learning and development as interrelated**
- ZPD as the difference between actual developmental level (independent PS) and level of potential development (PS under adult or more capable peer guidance)
- Characterize mental development that is *currently maturing => capture dynamic state*
- Consider imitative activity, not just independent activity
- Learning should be "forward" looking in terms of the developmental level
  - Seek to advance the developmental level

Zone of Proximal Development

Skills too difficult for a child to master on his/her own, but that can be done with <u>guidance</u> and <u>encouragement</u> from a knowledgeable person.

What is Known

What is not Known

Learning

ZPD (cont.)

- Communication between child and people in the environment => internal speech
- Need to prove one's point => internal reflective thought
- Regulate behaviour in play => self-regulation
- Internalization become basis of voluntary behaviour/independent development
- Learning is necessary for development => development lags behind learning?
- The relationship between learning and developmental processes is highly complex and dynamic

To summarize Vygotsky

a) Higher psychological processes are sociocultural in origin
      i) Arise from the use of signs which are culturally generated
      ii) Arise from social interactions
b) These signs and social interactions become *internalized*
      i) The external operation starts happening internally
      ii) Interpersonal process becomes intrapersonal process
            (a) External and egocentric speech becomes internal speech
c) Zone of proximal development
      i) Social interaction
      ii) Scaffolding