Saying More than You Know in Instructional Settings

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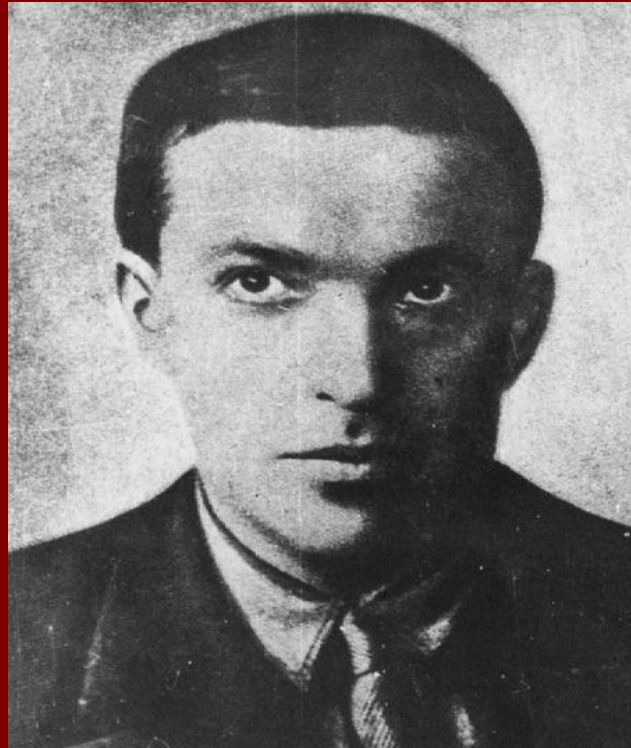
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Lev Semënovich Vygotsky (1896-1934)

Thinking and Speaking

- *Myshlenie i Rech'* (1934)
  - Dialectic between two processes (*not* "thought and language")
  - Thinking: relatively inchoate
  - Speaking: process of shared social *articulation,* "sizing things up"

Socialization

- Learning how to size things up in a way used by a community
- "Knowing how" to use socially agreed upon sign systems
- Inclusion into existing symbolic order
- Symbolic aspect often remains "transparent" (Luria)

Dialectic Between Thinking and Speech

- Vygotsky: "word meaning changes and develops"
- "Word meaning is a phenomenon of both speech and intellect"
- Through increasing intersubjectivity
  - Rommetveit's role in redefining research on the zone of proximal development

Symbolic Mediation Frames the Rest of the Approach

- Humans are symbol-using animals
- *Not* "atomistic," "unencumbered" individual
- Active-agent-using-symbols
- Utterances "co-authored" by symbols
- Symbols as off-the-shelf technology

Inner Workings or "Architecture" of Symbols

- Two crucial components:
  - "Sign vehicle"
  - Meaning
- Socialization builds on mismatch between sign vehicle and meaning and narrowing it

Robust Nature of Sign Vehicles

- Can be used with very low level of shared understanding
- Allow for intersubjectivity at various levels
  - "Carburetor" for Rommetveit
  - Entry point for socialization
  - Limited intersubjectivity/understanding leads to learning

Methodology

- Discourse analysis to trace transformation in sign use
  - "Same" utterance can have different meanings across learning session
  - Limits of IR?
- How do we know when a student has mastered a symbolic tool? How much does the student understand?

Learning How to Multiply

- Teacher: "x" means "times," so how do you read this?

- 3 x 24 = 72

Multiplying

- Teacher: Now how do we solve this? Read it first and then do the problem.

- 24
- <u>x3</u>

Word Meaning Develops

- Questions and answers involving same sign vehicles involve different meanings
- Limits of methods that count up uses of sign vehicles

Another Illustration: Graphing Data

- Student study of impact of light on plant growth
- Graph paper
- "to organize data"
- Typicality
- Spread

- Initially used with little understanding on the part of students

Teacher's Other-Regulation

- Organized around cultural tools
- Cultural tools introduce their own contribution
  - Have their own voice
  - "Discipline" the participants' interaction and ideas in accordance with established usage
  - Reproduction of cognitive, social order

Graph Paper as Symbolic Tool Provides Means to:

- Enter intermental functioning at a primitive level of intersubjectivity

- Begin the articulation process

- Begin construction of meaning on intramental plane (affordances and constraints of cultural tool as dialogic partner)

Conclusions

- Mismatch between form and meaning as a path to socialization

- Robust nature of sign vehicles allows growth in intersubjectivity
  - Thinking and speaking are two sides of same coin

Conclusions

- Constructivism of a certain type:
  - Socioculturally situated because symbols are off-the-shelf technology
  - Symbols bring with them their own affordances and constraints
  - Construct meaning around symbols
  - Basis for higher levels of reflection and critique
  - *But* authority built into symbols tends to discourage this