

Education 173
Cognition and Learning in
Educational Settings

Cognitive Development/Vygotsky



Fall Quarter 2007

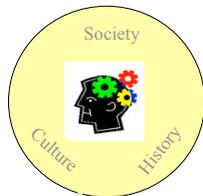
Lev Vygotsky

- 1896-1934
- Era of Russian Revolution
- Writings Translated to English in the 1970s



Two Huge Ideas

- Zone of Proximal Development
- Social Origin of Higher-Order Cognition



The Zone of Proximal Development

"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."



Vygotsky, 1978, p. 86.

The ZPD

- Relates to Developmental Readiness
- Emphasizes Reciprocity of Influence
- Has Implications for How to Teach
 - “Scaffold” (Jerome Bruner)
 - Focus on task elements the learner can control
 - Avoid overwhelming the learner



Higher-Order Cognition

- Origin: The Social Environment
 - We first observed higher-order thinking in the social space
 - As children, often by listening to adults
- Internalization
 - Higher-order thinking becomes internalized as our own independent psychology
- Going “Underground”
 - Higher order thinking may begin as audible self-talk
 - It eventually becomes silent “thought in the head”

Private Speech



- Private Speech Is Related To:
 - Age (goes from overt to covert)
 - Problem difficulty
- Do Adults Use Private Speech?
 - Yes, but as internal speech (not audible)
- Probably supports self-regulation during problem solving
- Probably supports higher-order thinking

Cognitive Modeling



- A Powerful Teaching Technique
- Verbalization of Model's Thoughts
 - Step by step: "First I have to decide . . ."
 - Includes self-reinforcement
 - "Okay, stay with it." "Nice work."
- Teaches how to deal with mistakes, uncertainty, difficulty, etc.
- Facilitates goal clarification and tracking

Applications of Vygotsky

- Scaffolding
 - Just enough assistance, and no more
- Reciprocal Teaching
 - Students and teachers both teach and learn
 - Role-taking
- Apprenticeships
 - In pre-modern times; in nonwestern cultures
 - Professional development, including teaching



Vygotsky vs. Piaget



- Who Was More Important?
